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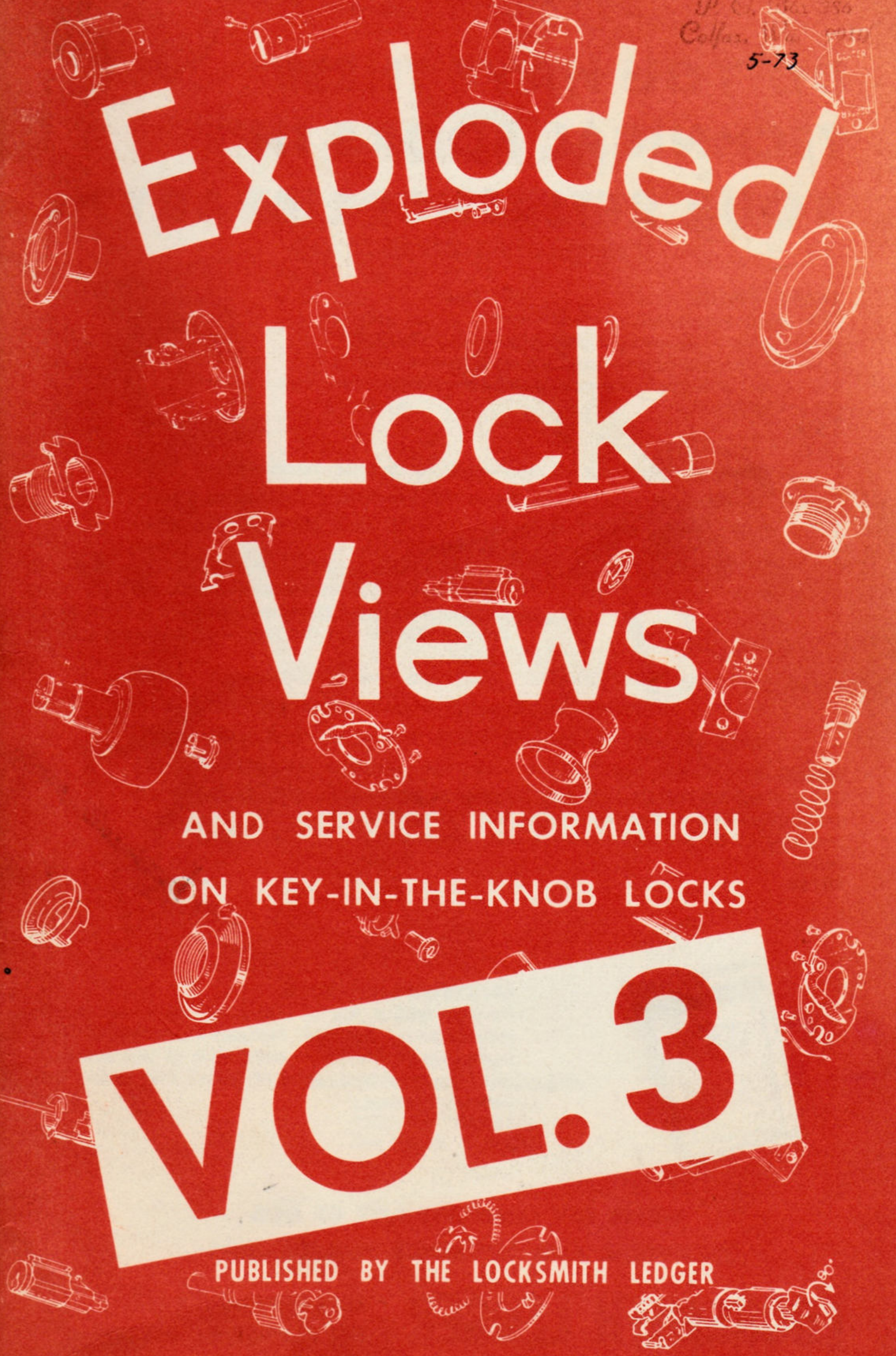

Exploded Lock Views

AND SERVICE INFORMATION ON KEY-IN-THE-KNOB LOCKS

VOL. 3

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VOLUME 3

EXPLODED LOCK VIEWS
and SERVICE INFORMATION
on KEY-IN-THE-KNOB LOCKS
and
PANIC EXIT BOLTS

This supplemental edition of Exploded Lock Views is being issued to provide under one cover all of the new locksets introduced since the time of the release of Volumes No. 1 and No. 2 of EXPLODED LOCK VIEWS. When used together, these three manuals provide service information and technical data on the majority of the popular locksets of today.

Since manufacturers are constantly revising and improving their locks, the reader may find occasional variations between illustrations and the actual locks he may be working upon. These differences, however, are minor and will not detract from the value of this edition because the basic principles are unchanged.

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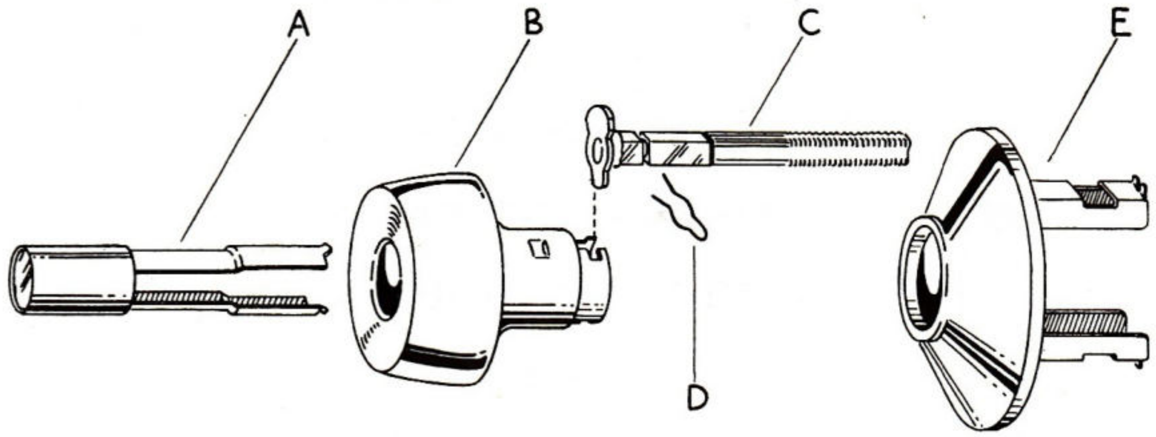
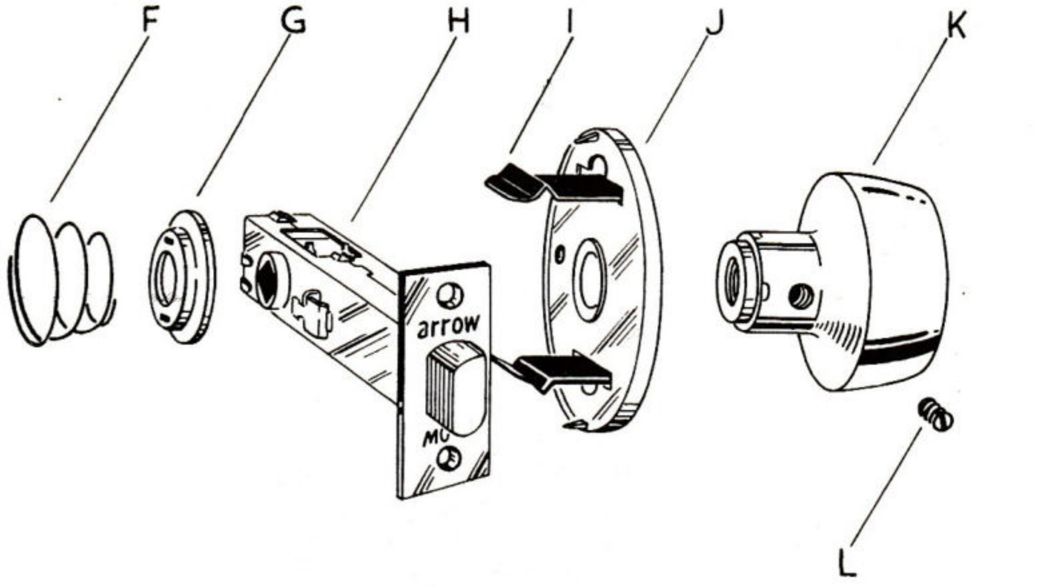


EXPLODED LOCK VIEW

ARROW SNAPON LOCKSET NO. 283

Manufactured By

Arrow Lock Corporation
BROOKLYN 11, NEW YORK



A—Push Button

B—Inside Knob

C—Split Spindle

D—Knob Retainer

E—Inside Rose Plate and Aligning Girder

F—Spring

G—

H—Latchbolt

I—Aligning Spring Slides

J—Outside Rose and Slide Plate

K—Outside Knob

L—Knob Screw

SERVICE NOTES

The installation of this lockset is accomplished without the use of screws to hold the lock case together. Engagement of both halves of the case is effected by spring slides in one of the rose plates into an aligning girder attached to the opposite rose plate. A view of the manner in which the slides engage the aligning girder is shown in Figure 1.

After the slide has engaged the girder, the knob is screwed on the split spindle. The knob is turned in as tightly as possible; the action of this tightening draws the lock case together. Also, the compression forces two tiny lugs provided in the outside rose plate into the wood of the door. Seating the lugs in the wood prevents the rose from turning during operation of the lock. The knob then is backed off to be set in normal operating position (See Figure 2).

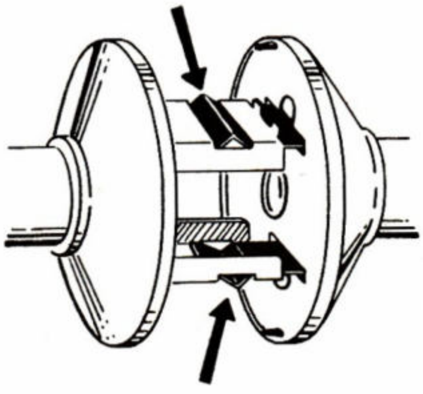


Figure 1

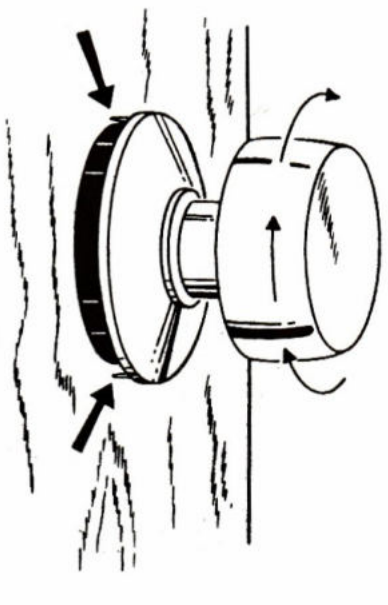
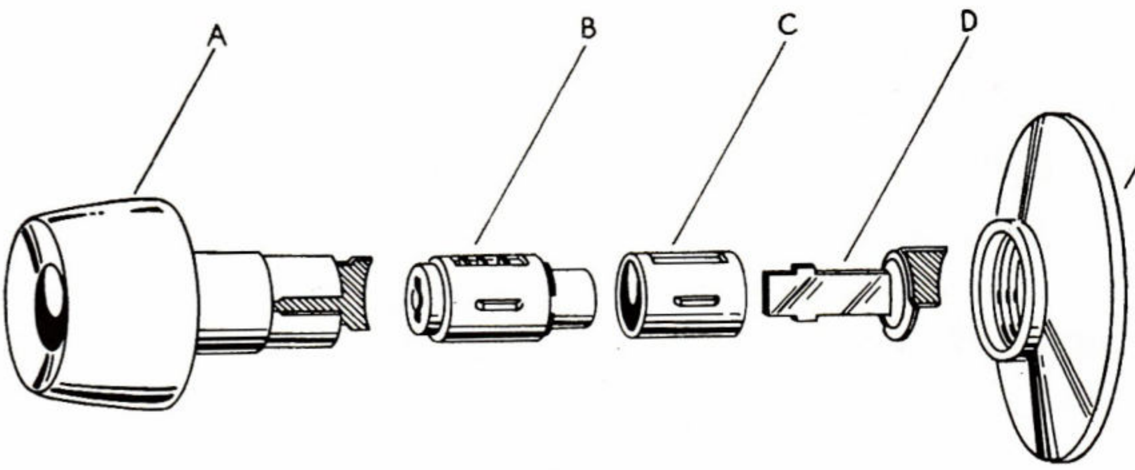


Figure 2

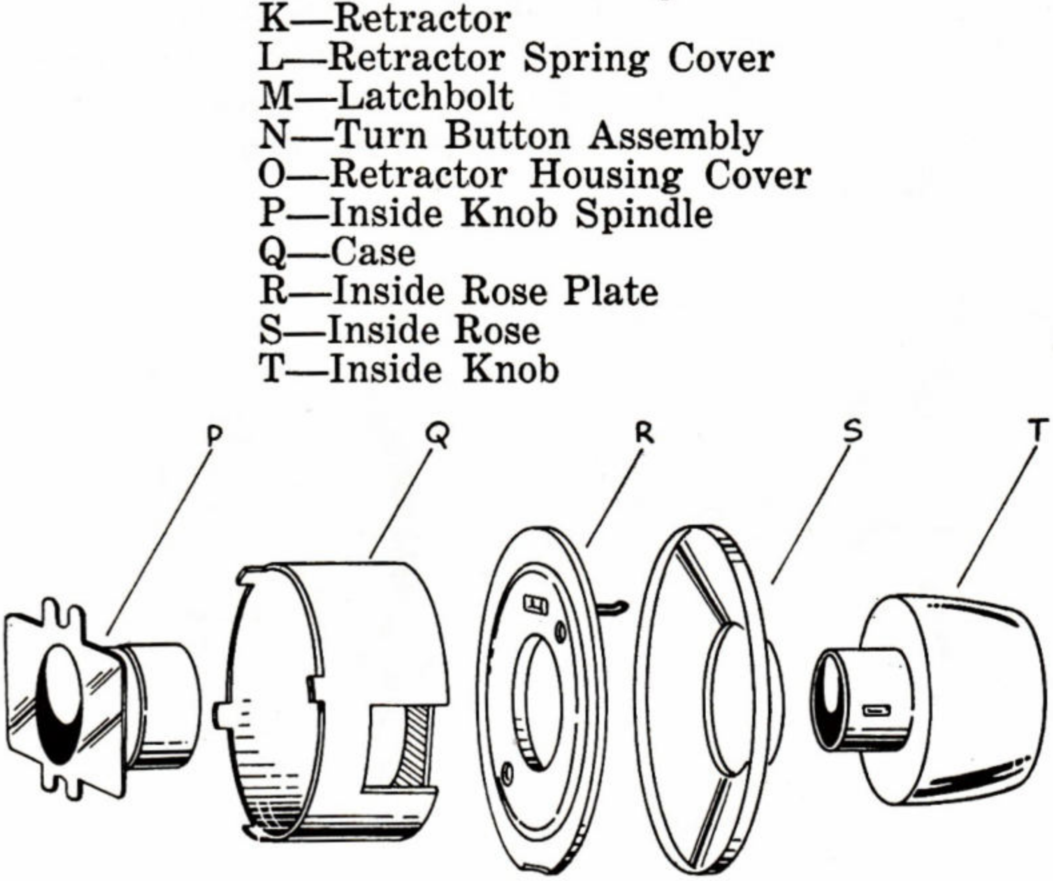


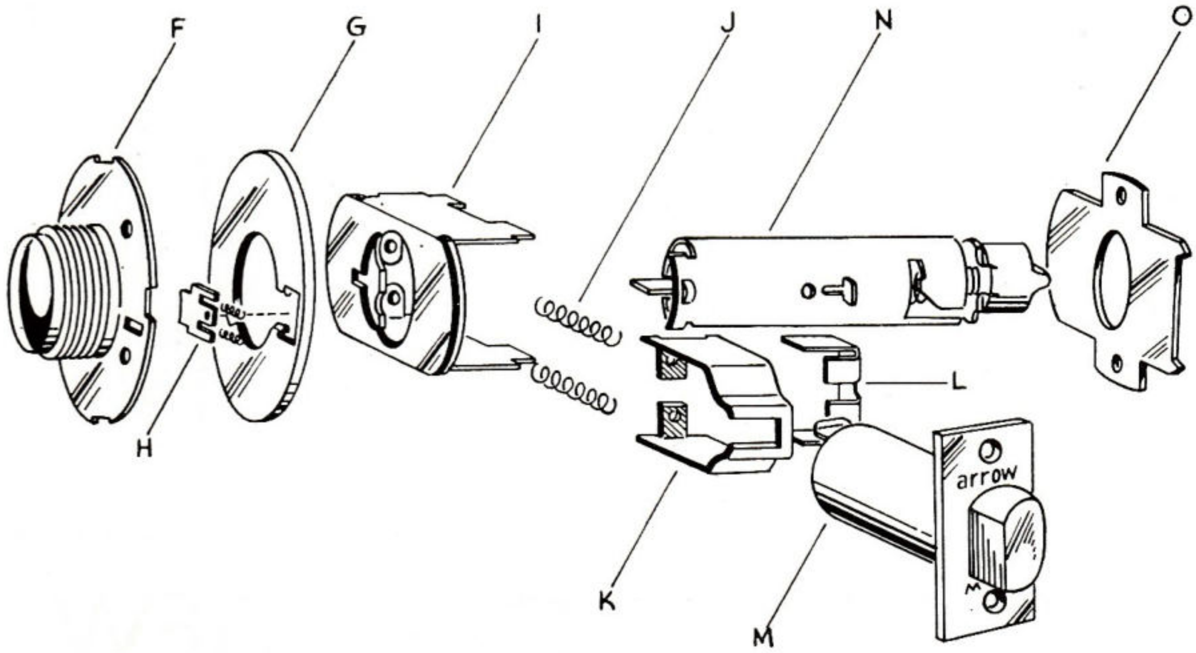
EXPLODED VIEW

Arrow W350 Cavalier Lockset

Manufactured by Arrow Lock Corporation
Brooklyn 1, New York

A—Outside Knob
B—Cylinder (Wafer) and Sleeve
C—Knob Tube Cam
D—Cam
E—Outside Rose
F—Case Cover
G—Case Inner Plate
H—Knob Retainer and Springs
I—Retractor Housing
K—Retractor
L—Retractor Spring Cover
M—Latchbolt
N—Turn Button Assembly
O—Retractor Housing Cover
P—Inside Knob Spindle
Q—Case
R—Inside Rose Plate
S—Inside Rose
T—Inside Knob





SERVICE NOTES

To remove the outside knob for cylinder servicing, lift up the outside rose to expose the small opening in the case cover "F", through which the knob retainer can be seen. Rotate the knob one-eighth turn counterclockwise; then, insert the point of a small hook into the hole in the retainer. (See Figure 1.) Pull the tool back to slide the retainer out of engagement with the knob, and remove the outside knob.

Removal of the cam, knob tube cam and cylinder and sleeve is accomplished by merely pushing the parts out. Note that the knob tube cam and cylinder sleeve have lugs to align the cylinder in the knob. With the cylinder and sleeve out, the cylinder can be separated from the sleeve by removing the half-circle retainer at the cylinder tailpiece.

Following servicing, the cylinder and sleeve and knob tube cam are replaced in the knob, lining up their guide lugs with the knob guide grooves. With the cam in position, line up the raised lug on the knob spindle with the retainer in the case and push the knob into the case. While this is being done, the latch retractor should be depressed to move the retractor out of the way of the knob spindle while entering the case.

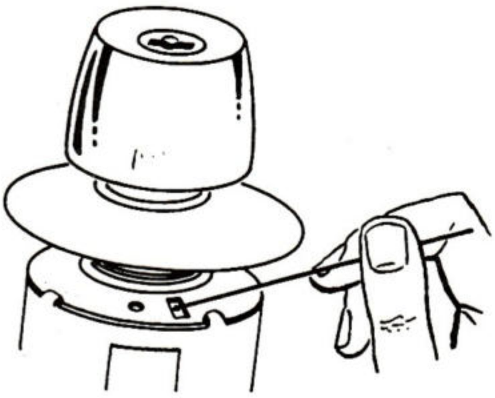


Figure 1

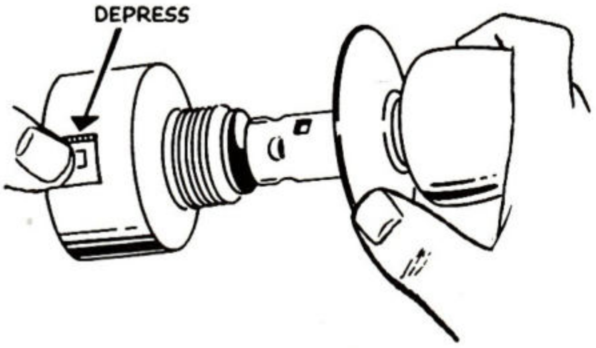
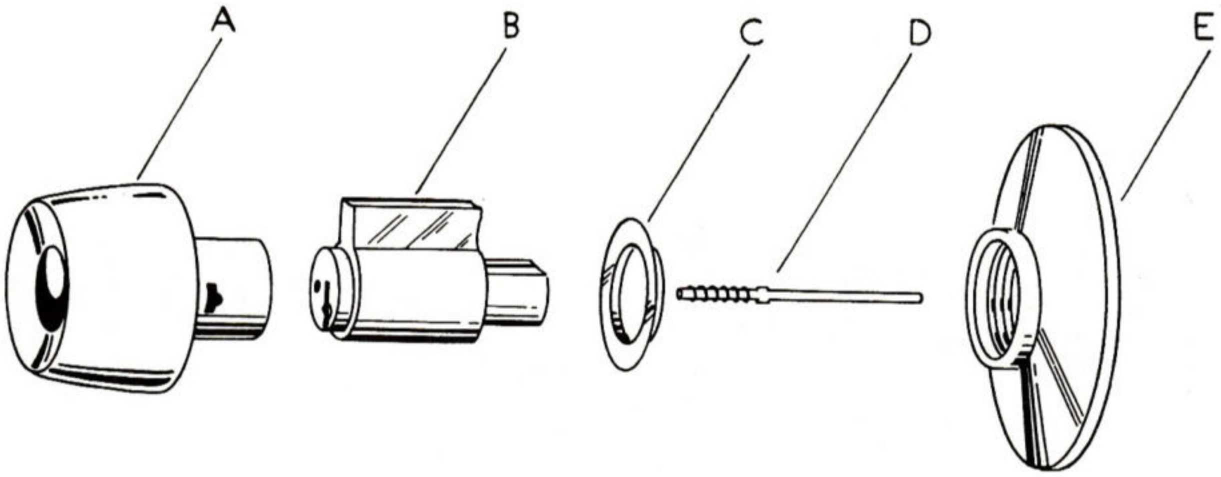


Figure 2

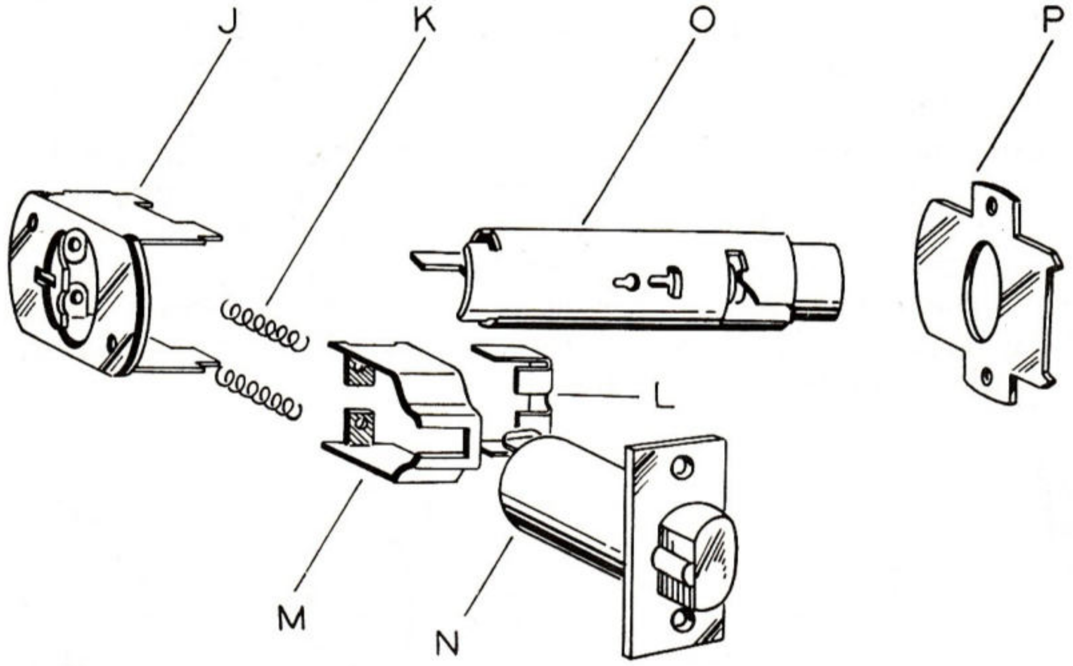


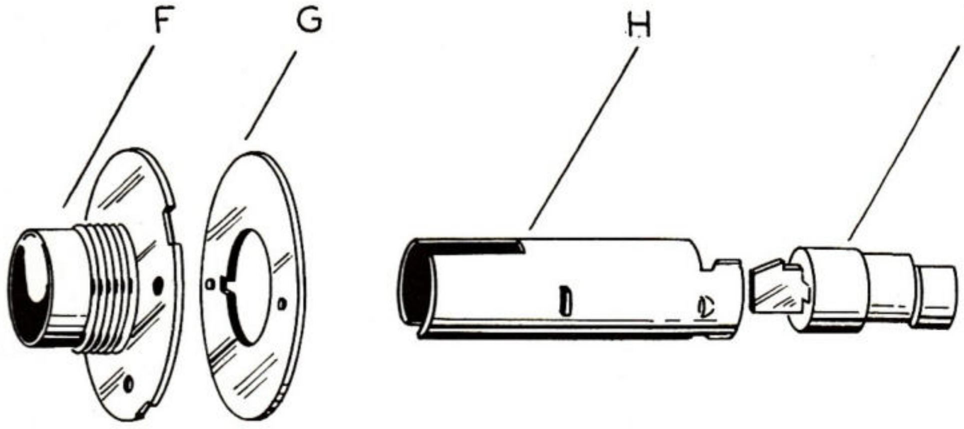
EXPLODED LOCK VIEW

ARROW W351 HOTEL LOCK

manufactured by Arrow Lock Corp.

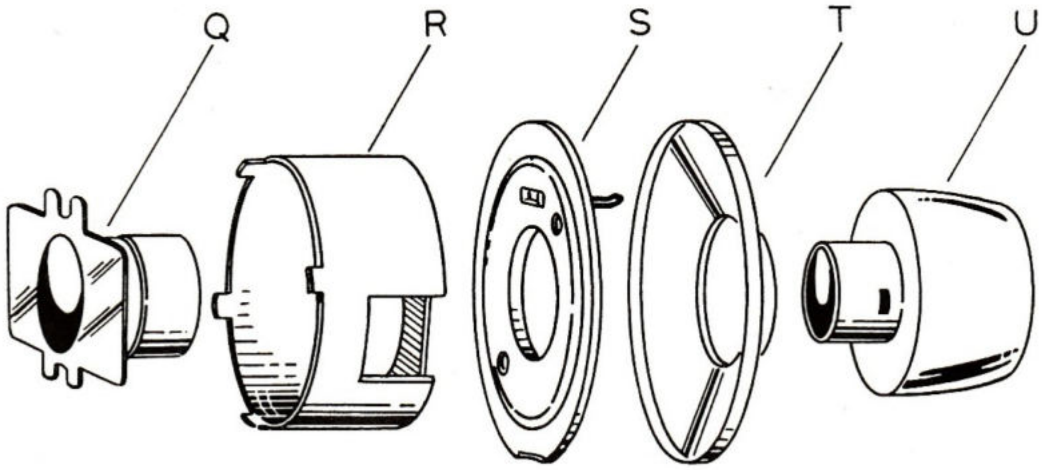
Brooklyn 1, New York





A—Outside Knob
B—Cylinder (Pin Tumbler)
C—Outside Knob Collar
D—Occupancy Indicator Pin
E—Outside Rose
F—Case Cover
G—Case Inner Plate
H—Outside Knob Spindle
I—Occupancy Indicator Pin Locking Mechanism
J—Retractor Housing

K—Retractor Springs
L—Retractor Spring Cover
M—Retractor
N—Latchbolt
O—Push Button Assembly
P—Retractor Housing Cover
Q—Inside Knob Spindle
R—Case
S—Inside Rose Plate
T—Inside Rose
U—Inside Knob



The feature of this lock is an occupancy indicator, which consists of a pin that protrudes from the face of the outside knob when the inside locking button is depressed. With the occupancy pin showing, the lock cannot be opened with the regular key.

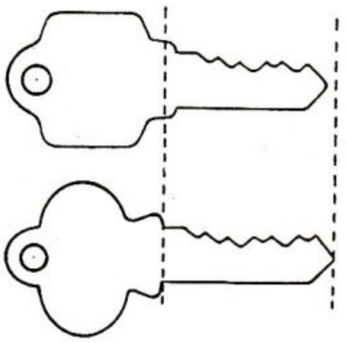


Figure 1

Two keys are provided with this lock — a regular key and a special lockout key. The regular key has six cuts and is longer than the lockout key, which has five cuts. (See Figure 1). The lockout key is a restricted key kept by the hotel manager.

The lockout key serves two purposes — it can either lock a tenant out of a room, or it can open a lock with the occupancy pin showing. To lock out a tenant, the two-pronged key shown in Figure 2 is used to depress and *lock* the inside locking button. The button, when depressed, pushes forward the pin locking mechanism "I", which in turn pushes the pin out of the knob and also blocks the rear of the keyway.

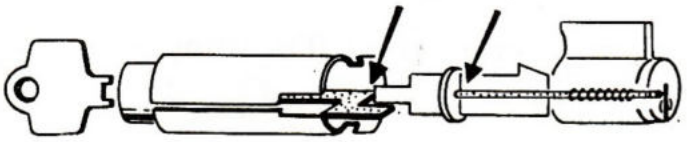


Figure 2

Thus, when the regular key is inserted, it *cannot* enter the keyway fully because of this blocking action. On the other hand, the lockout key, which is shorter, can enter the keyway to open the lock. (See Figure 3). It should be pointed out that only five of the six cuts in the regular key are used — the tip cut is a dummy cut. A five pin cylinder is used in the lock.

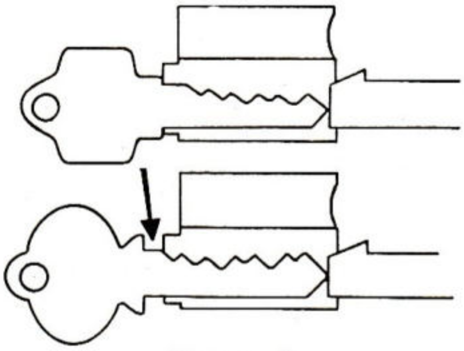


Figure 3

To reverse the hand of the cylinder, turn the outside knob clockwise as far as it will go. Then, insert a suitable tool into the hole in the knob shank and depress the knob retainer. At the same time, pull on the outside knob. (See Figure 4). Rotate the knob 180°, line up the slot in the knob shank with the slot in the spindle and press the knob on. Again, rotate the knob to the right and depress the knob retainer to seat the knob fully.

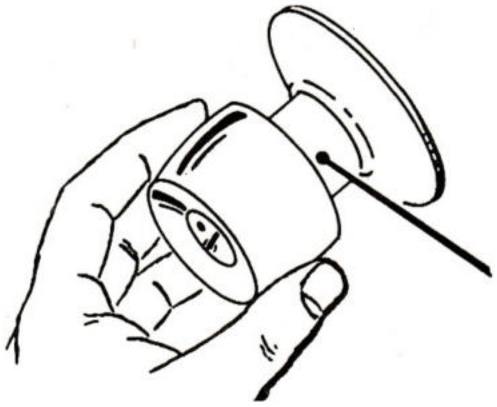


Figure 4

To remove the cylinder after the knob is off, merely tap the knob on a wooden surface to loosen the knob collar so cylinder can be removed.

APARTMENT HOUSE MASTER CHART

The following chart has been set up for master-keying an apartment house. This set-up will permit all apartment keys to operate the front door while retaining individual apartment security. Thirty-two keys are provided for, as well as the master key.

APARTMENT HOUSE FRONT DOOR KEY SET-UP

A—10201—Master Key
B—43534—Change Key #1 (below) 3 cuts from "A"
C—76867—Change Key #32 (below) 3 cuts from "B"

CUTS FOR 32 INDIVIDUAL CHANGE KEYS

1—43534
2—43537
3—43564
4—43567
5—43834
6—43837
7—43864
8—43867
9—46534
10—46537
11—46564
12—46567
13—46834
14—46837
15—46864
16—46867
17—73534
18—73537
19—73564
20—73567
21—73834
22—73837
23—73864
24—73867
25—76534
26—76537
27—76564
28—76567
29—76834
30—76837
31—76864
32—76867

PROCEDURE FOR CUTTING KEYS

Step 1—Cut Master Key "A" 10201

Step 2—Cut Key #1 "B" 43534

Step 3—Cut Key #32 "C" 76867

Step 4—Set up front door cylinder so the above keys will pass.

Step 5—Cut the remaining 30 keys from code above. When completed, all change keys will pass the front door cylinder.

EXPLODED VIEW

MARK II MS LOCKSET
For Narrow Stile Doors

Manufactured by Adams-Rite Manufacturing Company
Glendale, California

A—Armor Front Plate
B—Front Plate
C—Cylinder Screws
D—Cylinder
E—Cover Plates
F—Bolt Trip
G—Laminated Bolt
H—Vertical Activating Arm
I—Locking Rod

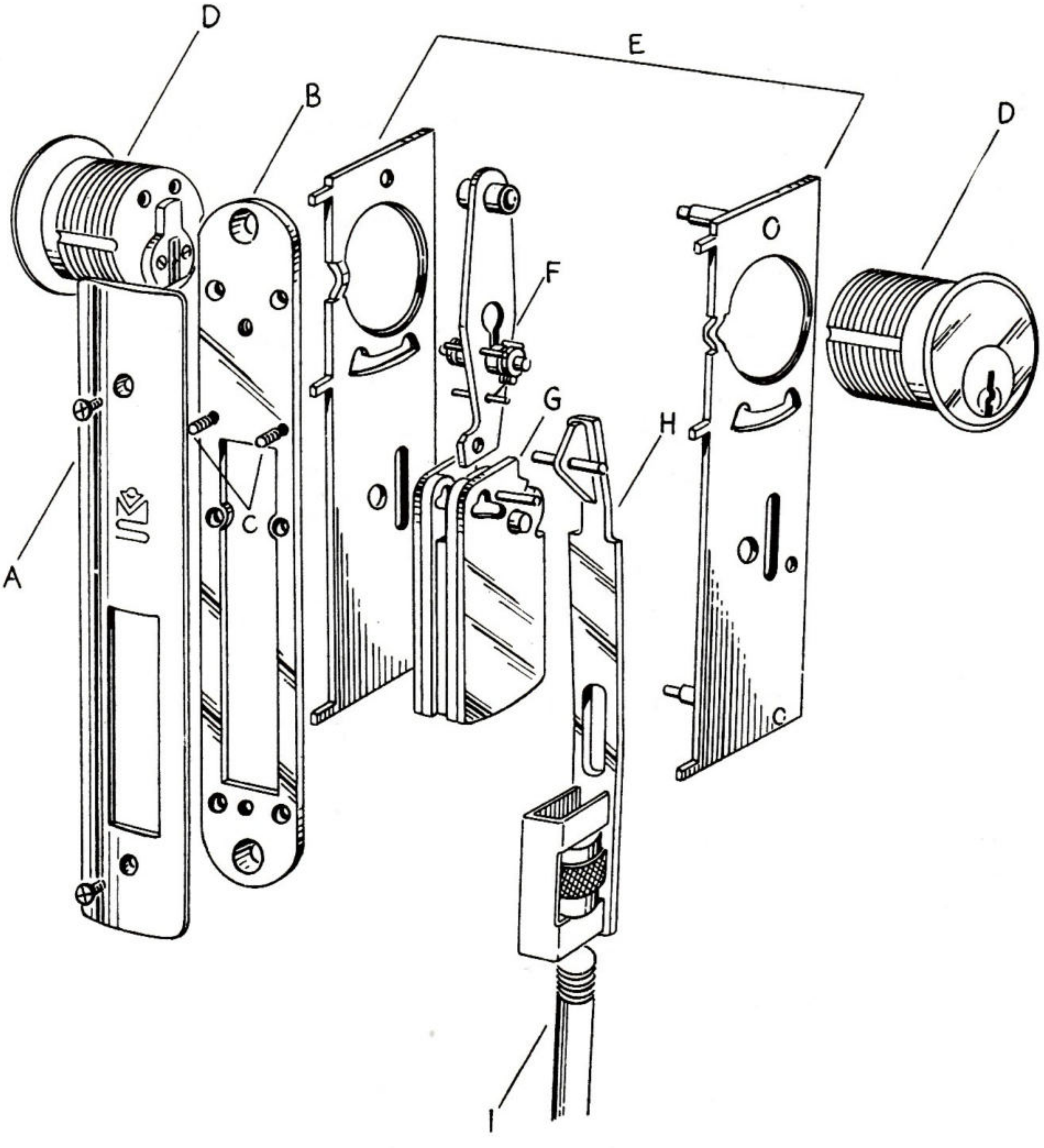


Figure 1 — Unlocked

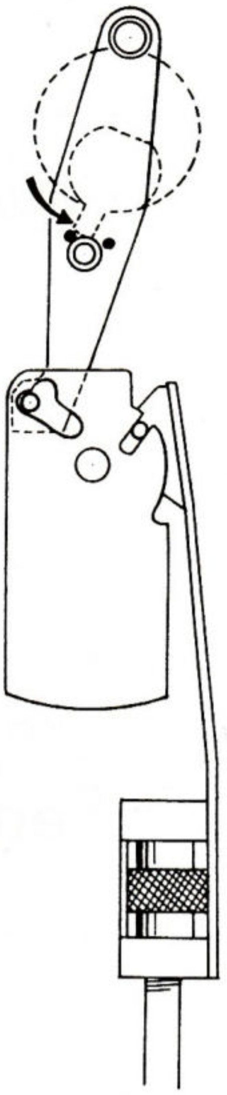
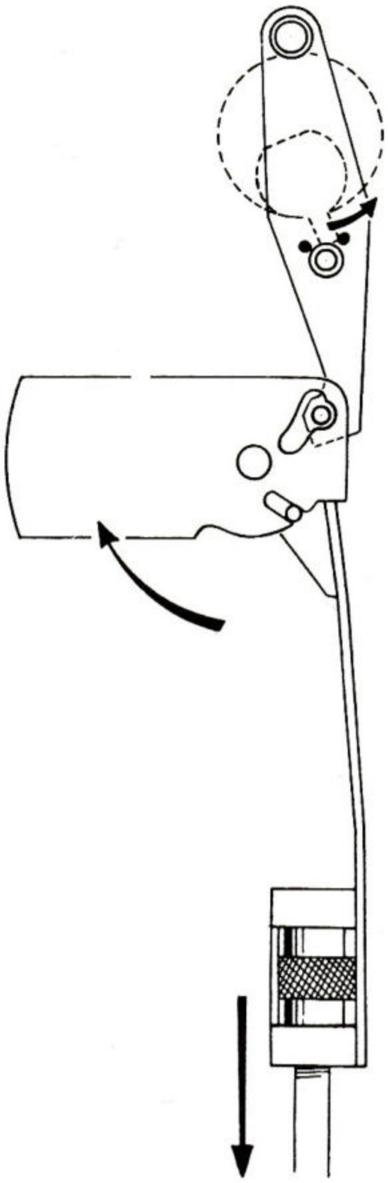
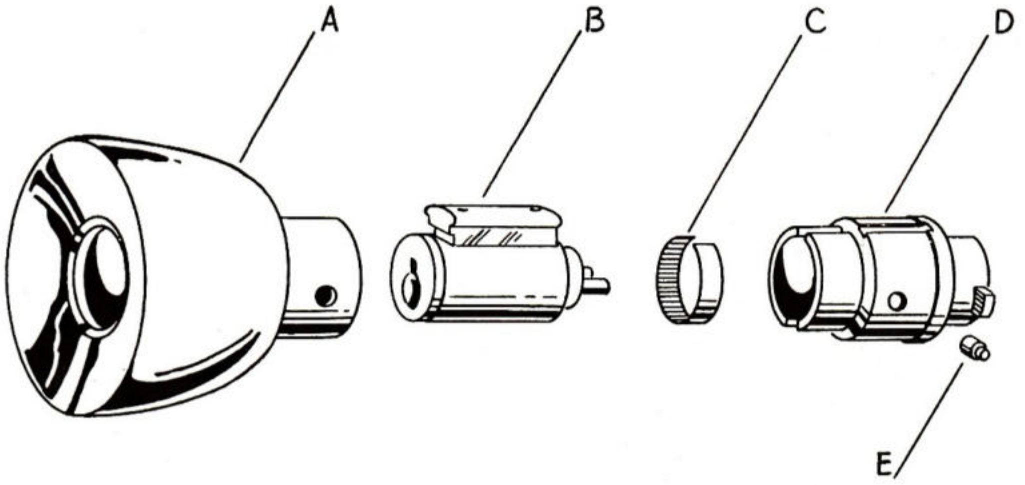


Figure 2 — Locked



SERVICE NOTES

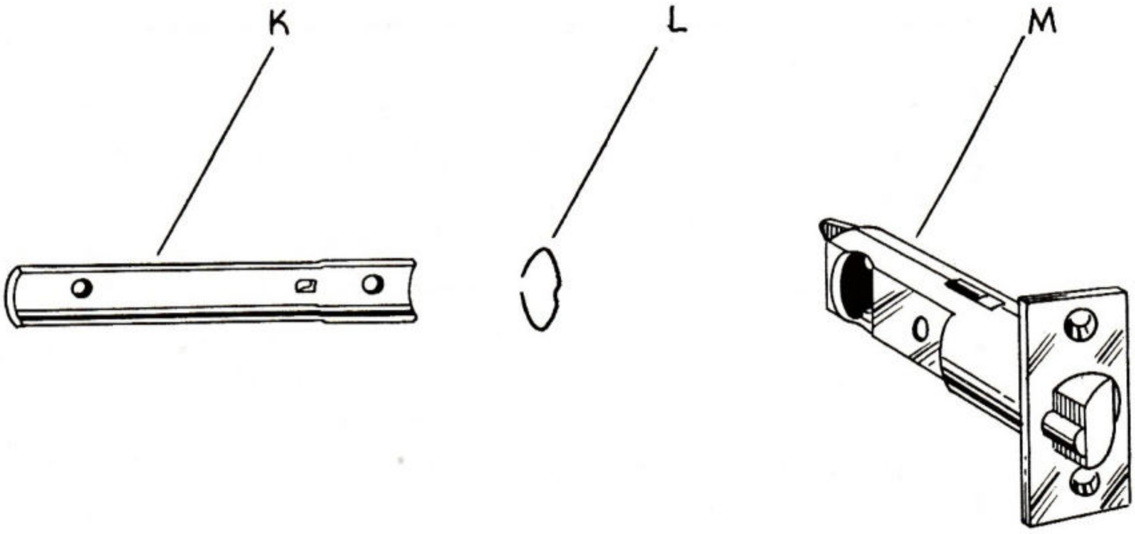
Figure 1 shows the lockset in its unlocked position. Note that the cylinder cam (arrow) engages the bolt at the trip arm. As the cam is turned by the outside key the trip is activated in the direction of the top arrow in Figure 2. This action causes the bolt to swing upward into its locked position (Figure 2). Since the vertical activating rod is attached to the bolt, the rod travels downward as the trip swings the bolt into the locked position to engage the floor strike.

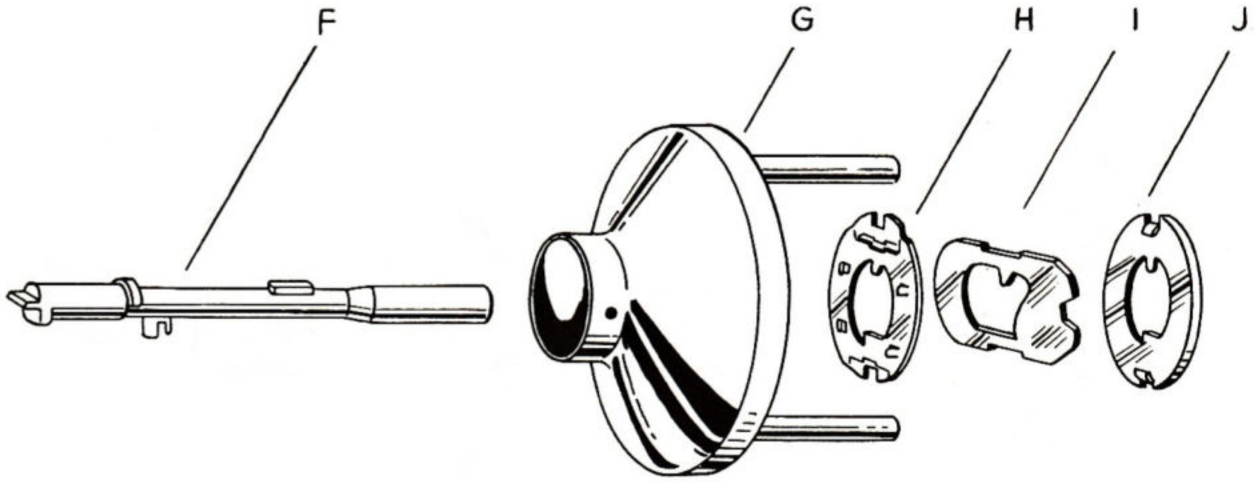


EXPLODED VIEW

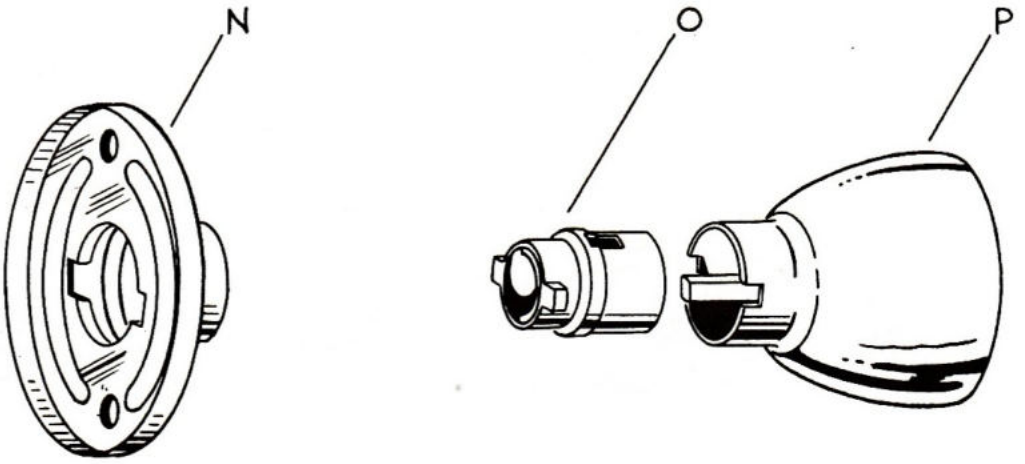
Challenger No. 500 Series

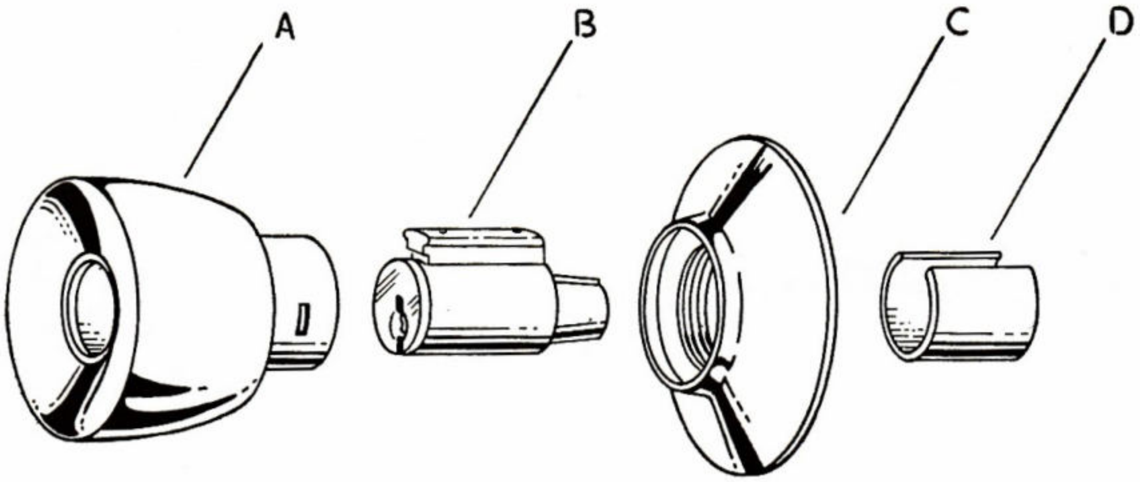
Manufactured by Challenger Lock Co.
Los Angeles, California





A. Outside Knob
B. Cylinder
C. Retainer for Outside Knob Retaining Pin
D. Cylinder Housing and Knob Spindle
E. Outside Knob Retainer Pin
F. Locking Stem
G. Outside Rose
H. Locking Slide Housing
I. Locking Slide
J. Locking Slide Housing Cover
K. Spindle
L. Retaining Spring
M. Latchbolt
N. Inside Rose
O. Inside Knob Spindle
P. Inside Knob

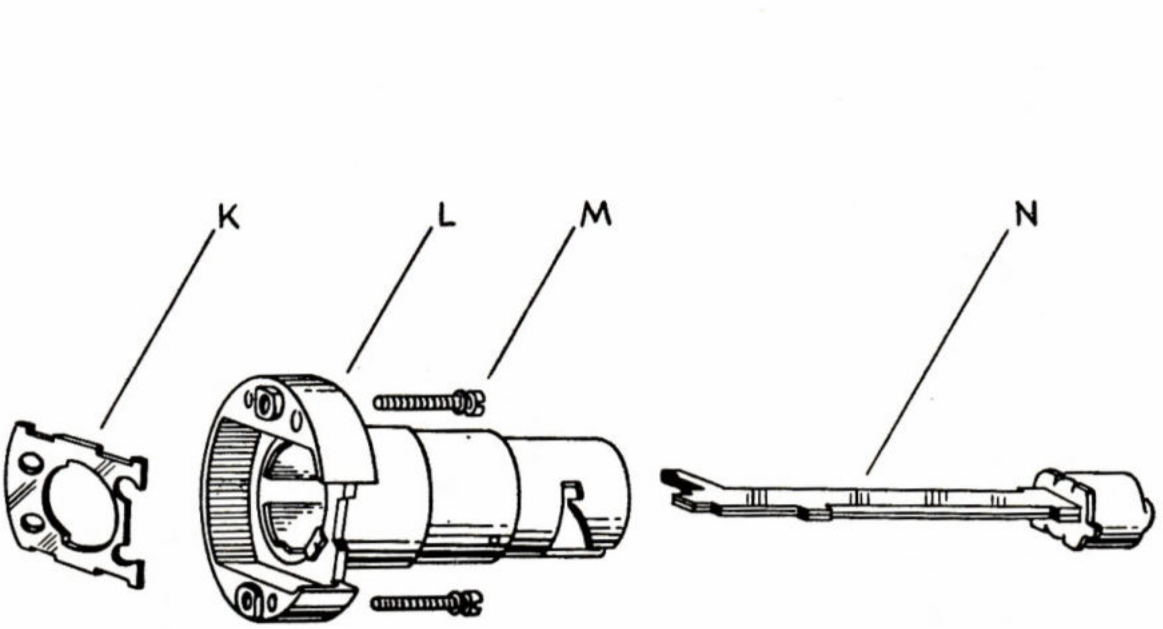


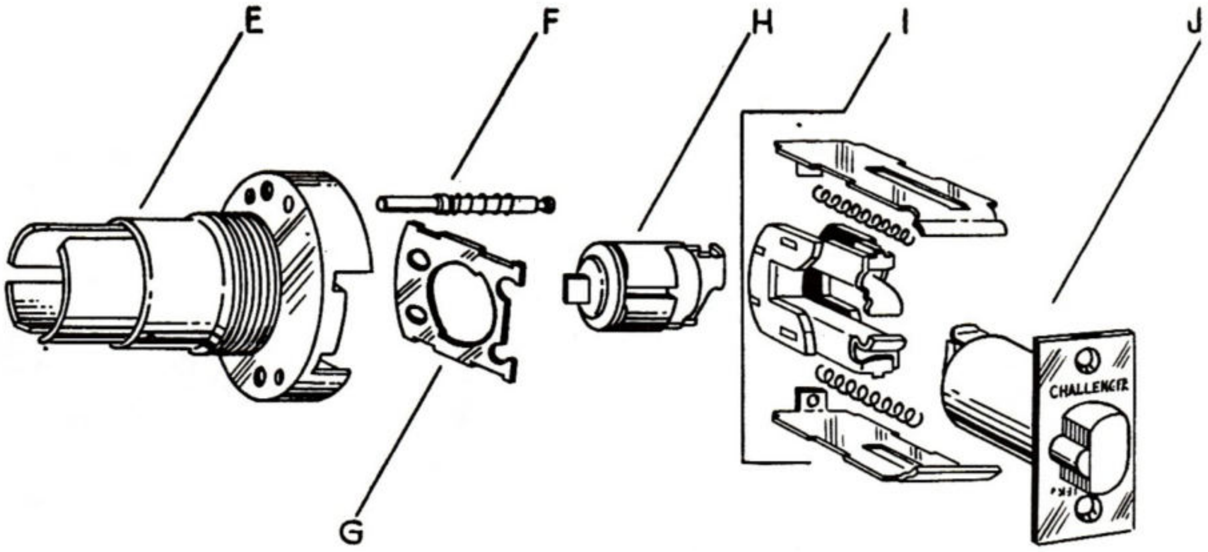


EXPLODED VIEW

Challenger No. 800 Series

Manufactured by Challenger Lock Co.
Los Angeles, California





A—Outside Knob

B—Cylinder

C—Outside Rose

D—Cylinder Spacer

E—Outside Knob Spindle and Retractor Housing

F—Outside Rose Anchor Pin (Prevents outside rose from being unscrewed).

G—Outside Knob Travel Stop

H—Cam Assembly

I—Retractor Assembly

J—Latchbolt

K—Inside Knob Travel Stop

L—Inside Knob Spindle and Retractor Housing

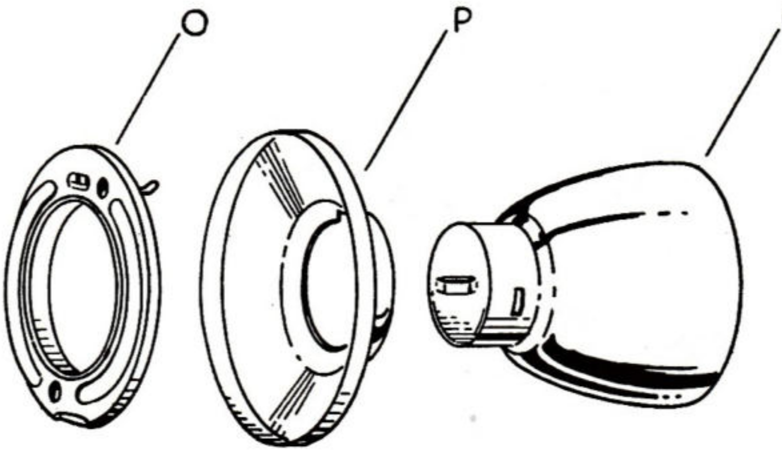
M—Retractor Housing Screws

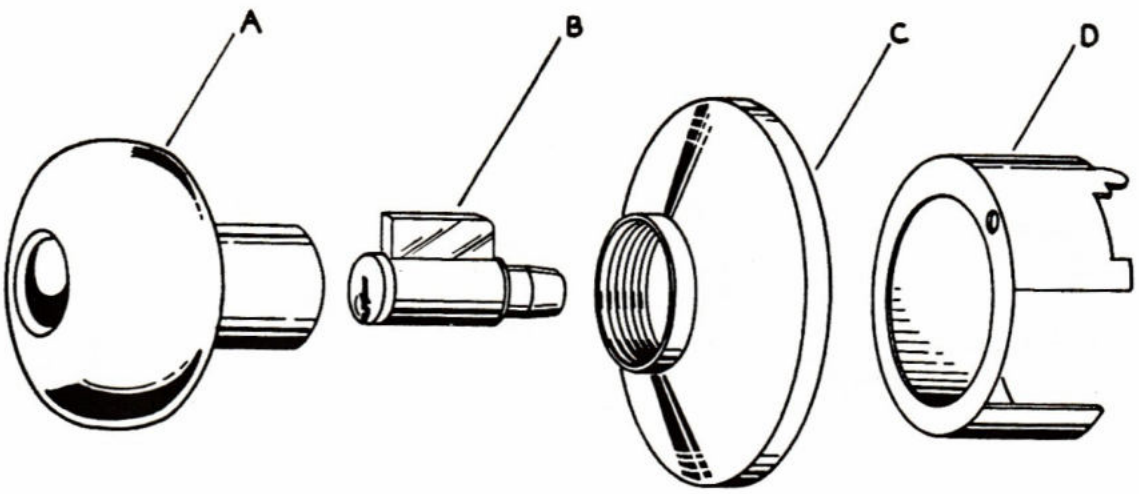
N—Turn Button Assembly

O—Inside Rose Plate

P—Inside Rose

Q—Inside Knob





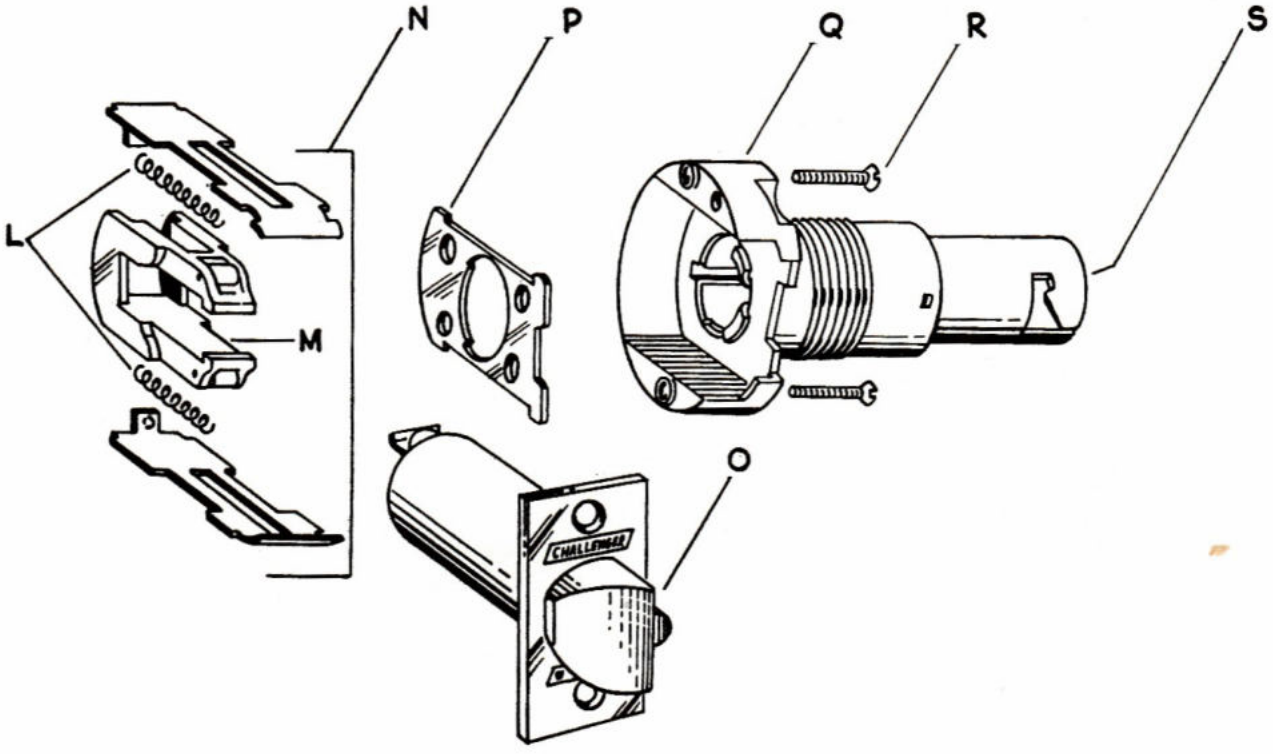
EXPLODED VIEW

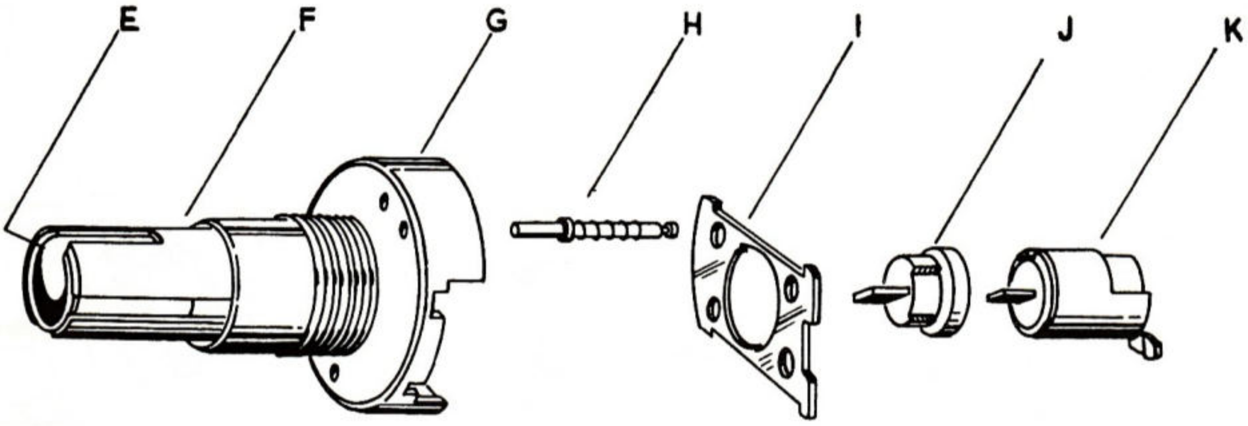
Challenger No. 900 Series, Model " C "

Manufactured by Challenger Lock Co., Inc.

Los Angeles, California

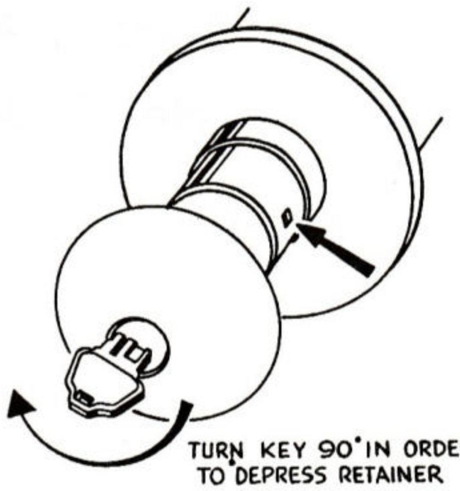
A—Outside Knob
B—Cylinder
C—Outside Rose
D—Housing Case Cover
E—Spacer for Sleeve
F—Sleeve
G—Outside Housing and Cover Assembly
H—Knob Retainer Pin and Spring
I—Housing Plate - Outer
J—Keeper Block and Link
K—Key Release Cam
L—Retractor Springs
M—Retractor
N—Housing Side Plates
O—Latch
P—Housing Plate - Inner
Q—Inside Housing and Cover Assembly
R—Housing Screws
S—Spacer for Sleeve
T—Dogging Bar Assembly
U—Housing Case Plate
V—Inside Rose
W—Inside Knob





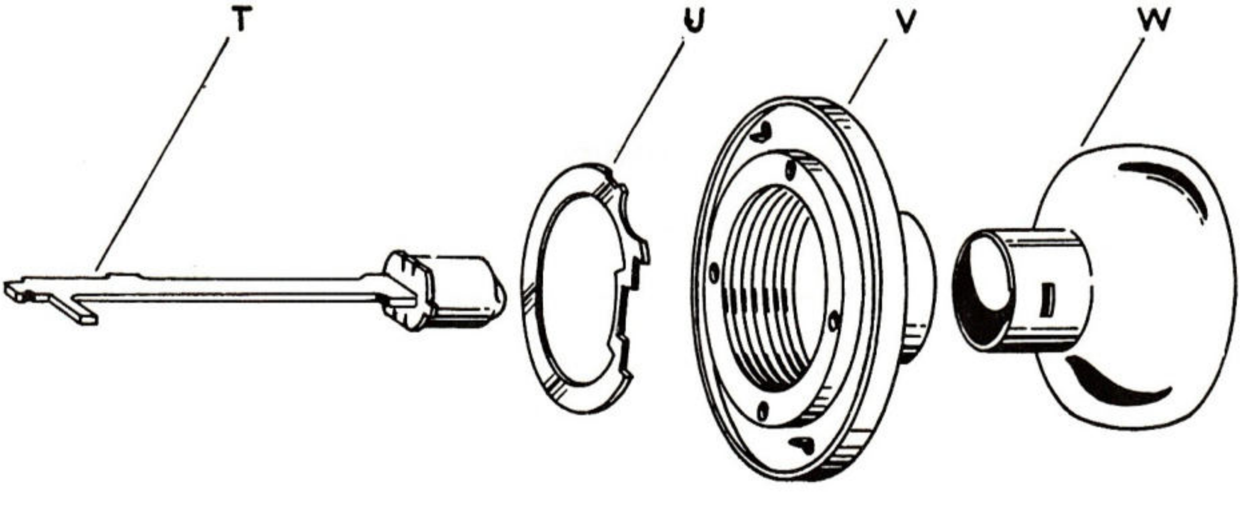
SERVICE NOTES

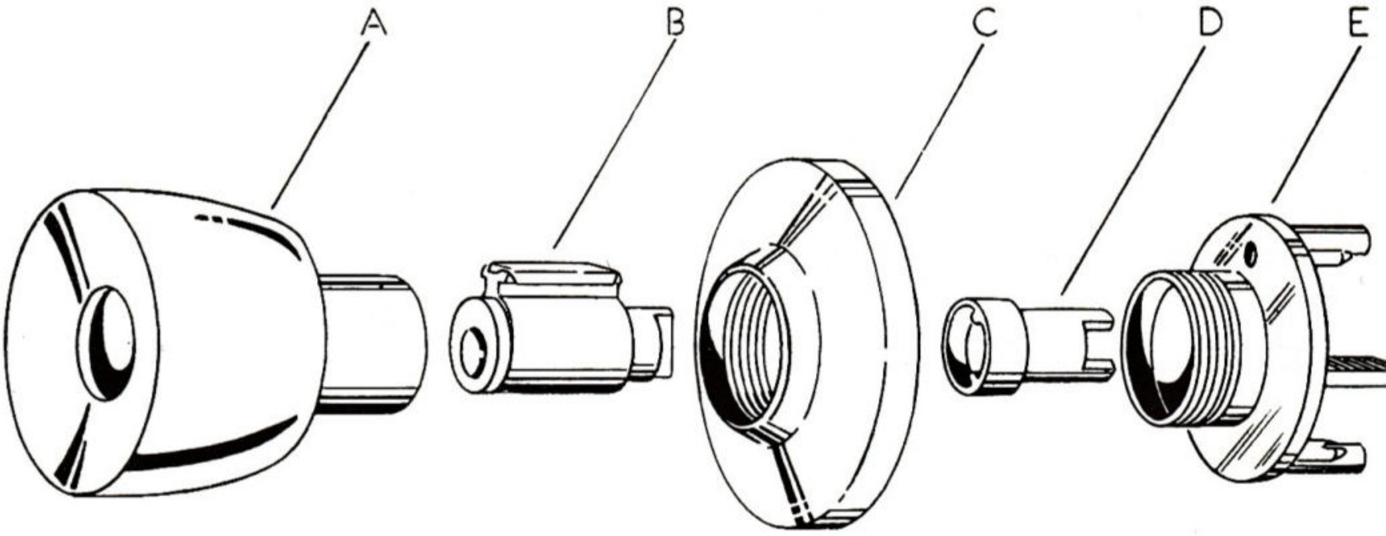
To change the hand of the lock, insert key and rotate the cylinder one-quarter turn to the right (90°). This will permit knob retainer to be depressed by inserting the end of spanner wrench in the square hole in outside housing (arrow). When knob is partially removed, rotate key back one-quarter turn to upright position and withdraw key part way from cylinder. Remove knob and cylinder assembly; then, reverse cylinder by rotating the partially withdrawn key one-half turn (180°). Also rotate spacer "E" in sleeve "F" one-half turn (180°). To replace knob, slide on sleeve and insert key fully. Rotate key 90°, and snap knob on retainer.



TURN KEY 90° IN ORDER TO DEPRESS RETAINER

Note! If the tabs on the housing case cover "D" are broken during servicing, the cover and/or the housing case plate "U" can be discarded.





EXPLODED LOCK VIEW

"SMOOTHLOCK 800" SERIES

No. 850-P Entrance Lockset

Manufactured by Donner Mfg. Co., Sylmar, California

A—Outside Knob

B—Cylinder

C—Outside Rose

D—Cam

E—Front Retractor Housing

F—Knob Spindle and Bearing

G—Latchbolt

H—Inside Spindle and Bearing

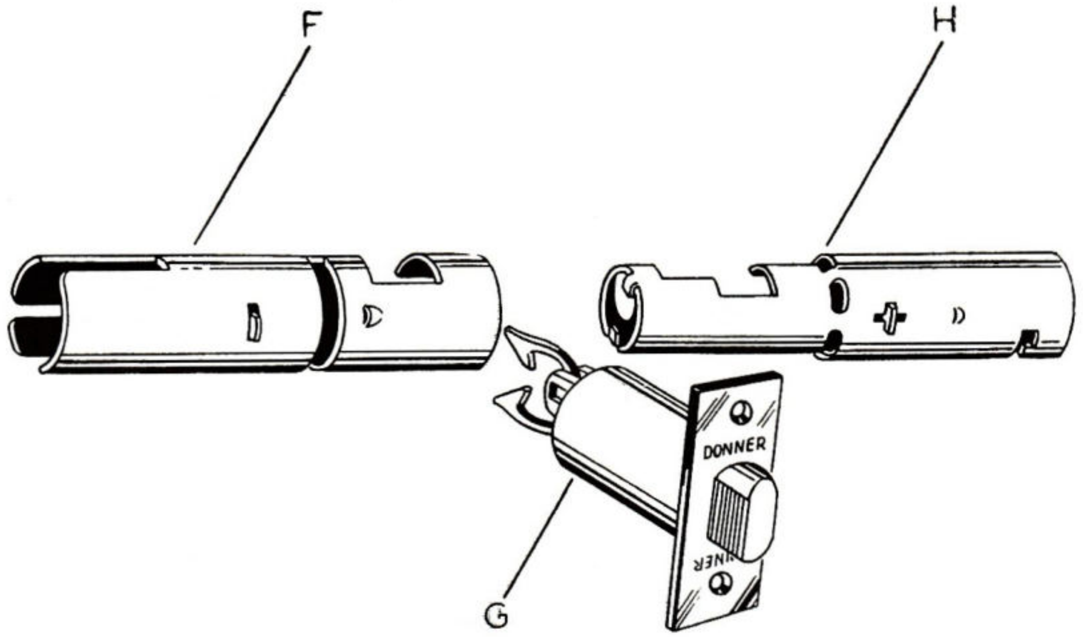
I—Cap Washer

J—Spring

K—Push Button Assembly

L—Inside Rose and
Rear Retractor Housing

M—Inside Knob

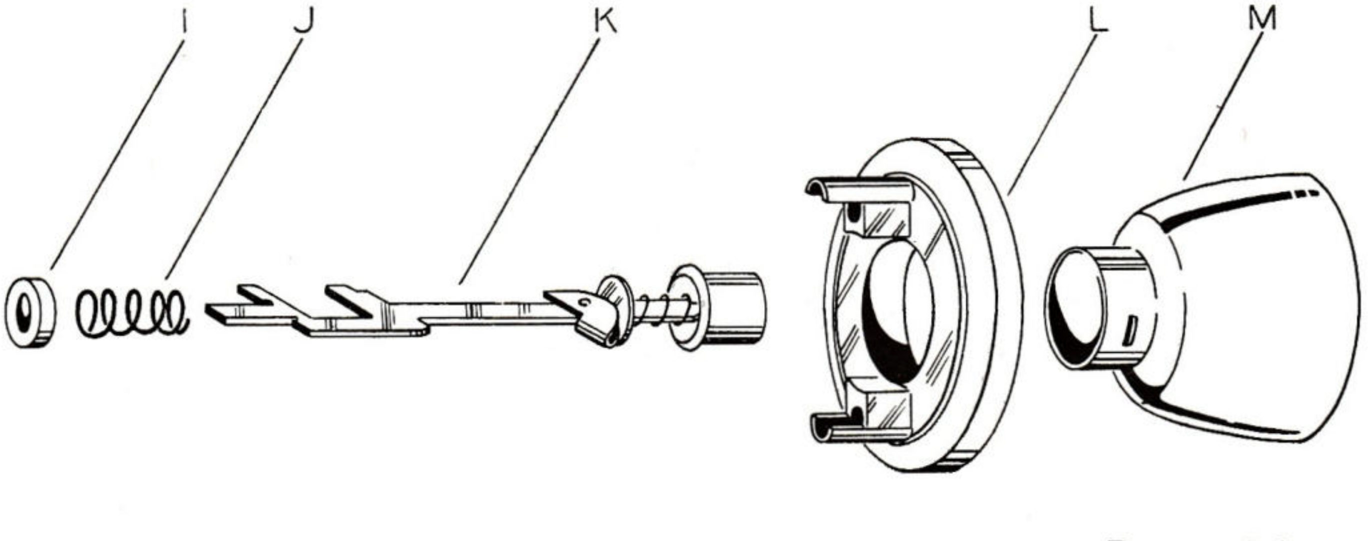


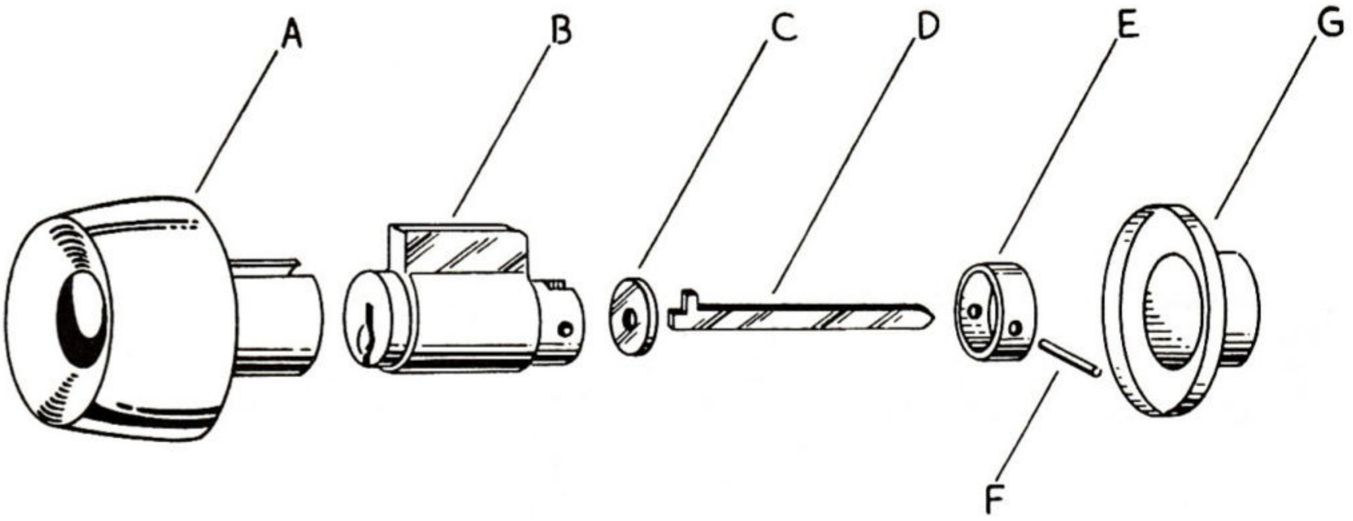
SERVICE NOTES

This lock is reversible for both hands of doors. To change the hand, unscrew the adjustable outside rose plate and depress the knob retainer. Remove the knob. Insert the key partially into the keyway and rotate the cylinder 180°.

This lock also is adjustable to door thickness. Merely rotate the outside rose in or out as needed. For 1 3/8″ doors, distance between outside rose plate and front retractor housing should be 1/8″. For 1 3/4″ doors, this distance should be 5/16″.

The latch bolt features a unique pincer type arrangement with an anchoring lug. When engaged, the anchoring lug fits on a projection of the front retractor housing. This holds the latchbolt in place but permits the pincer type retractors to be activated by the spindle. When installing the lock, the latchbolt should be depressed fully to open the pincers so that they can fall into proper engagement in the spindles.



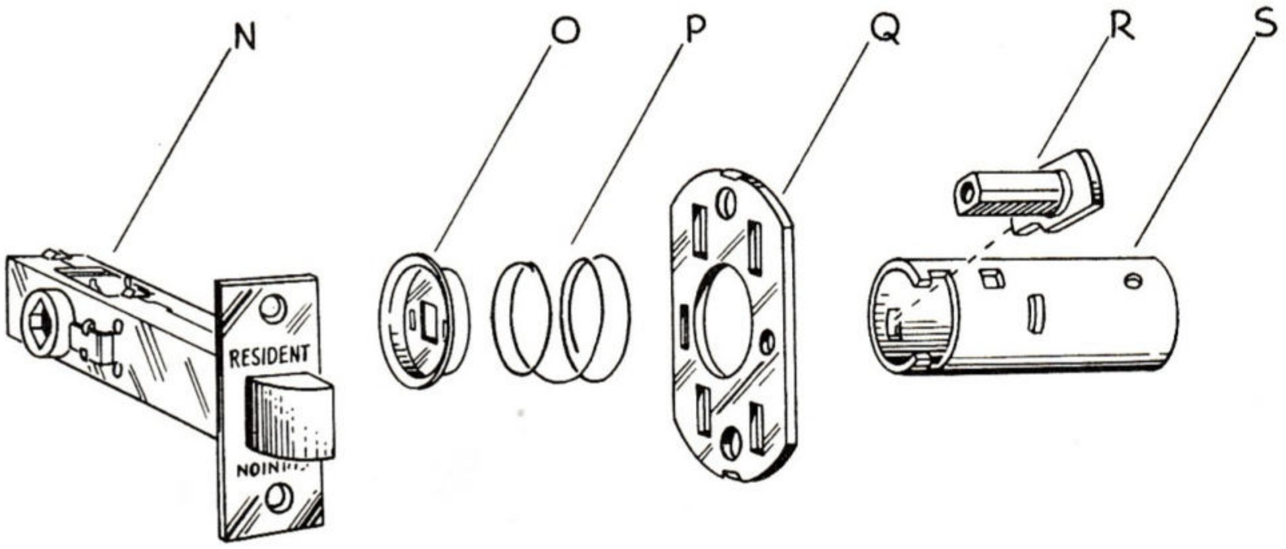


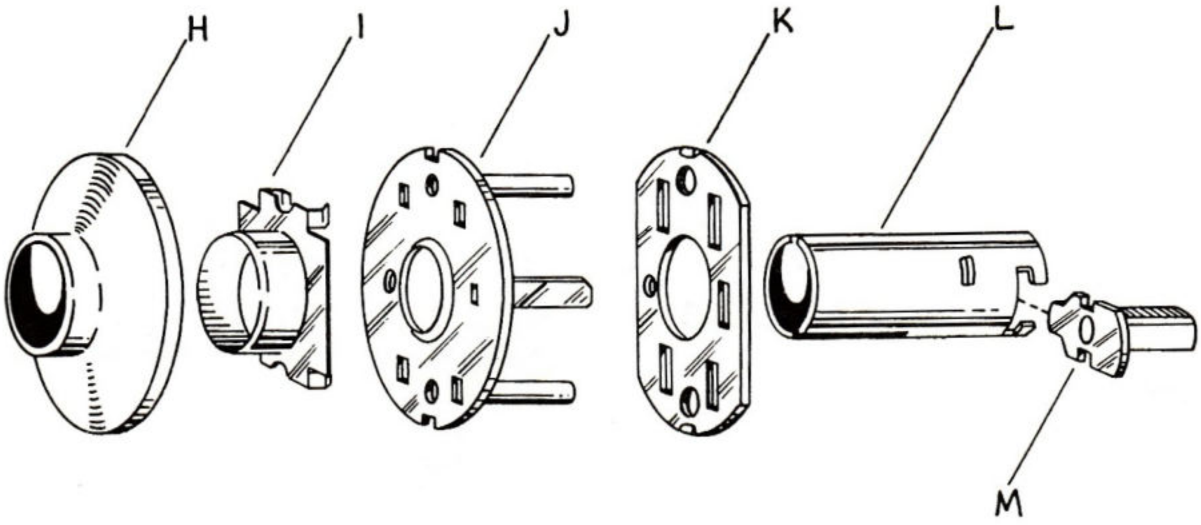
EXPLODED LOCK VIEW

KEY-IN-KNOB LOCKSET, MODEL C240

Manufactured by Dominion Lock Co., Ltd.

Montreal, Quebec, Canada





A—Outside Knob

B—Cylinder

C—Spindle Extension Retainer

D—Spindle Extension (Latch Activating Rod)

E—Cam

F—Cam Retaining Pin

G—Knob Collar

H—Outside Rose

I—Knob Scalp

J—Mounting Plate

K—Housing Plate

L—Cylinder Sleeve and Bearing

M—Outer Spindle

N—Latchbolt

O—Retainer

P—Spring

Q—Housing Plate

R—Inner Spindle

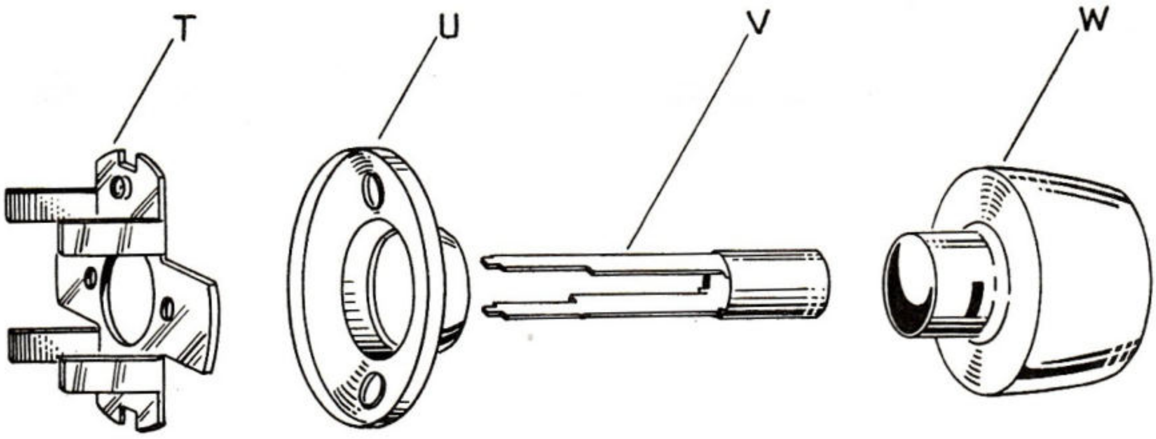
S—Push Button Sleeve and Bearing

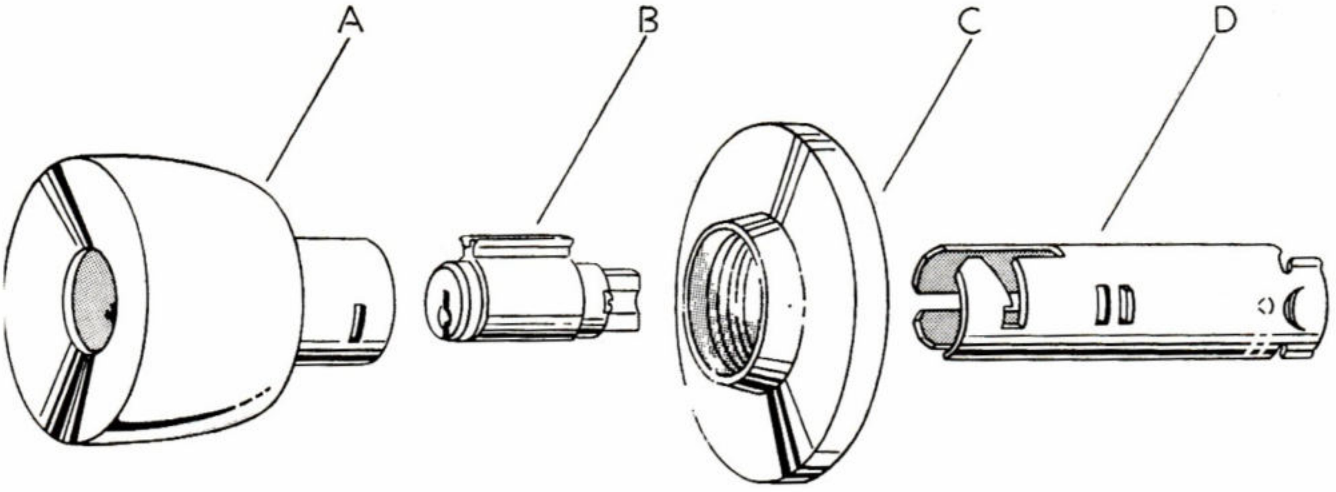
T—Housing Bracket

U—Inside Rose Plate

V—Push Button

W—Inside Knob





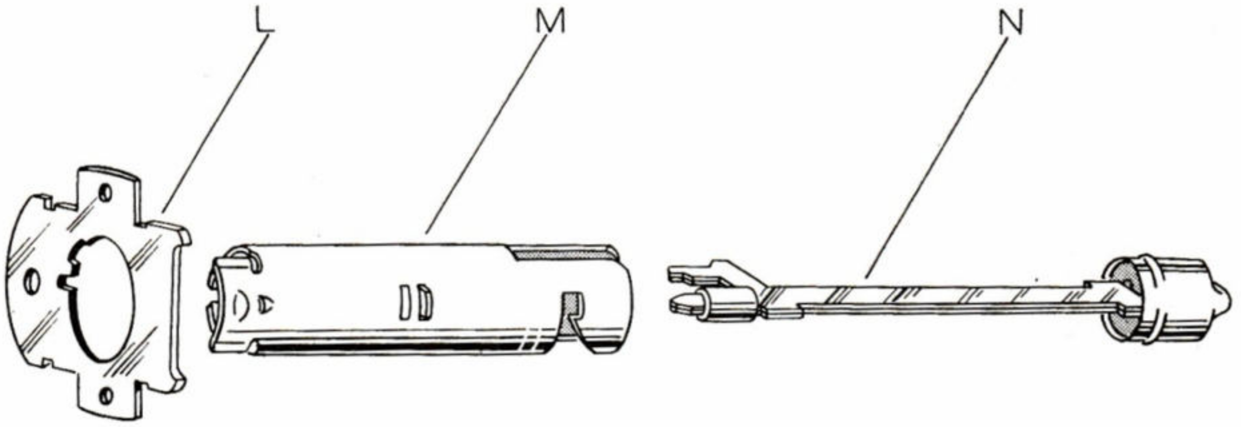
EXPLODED LOCK VIEW

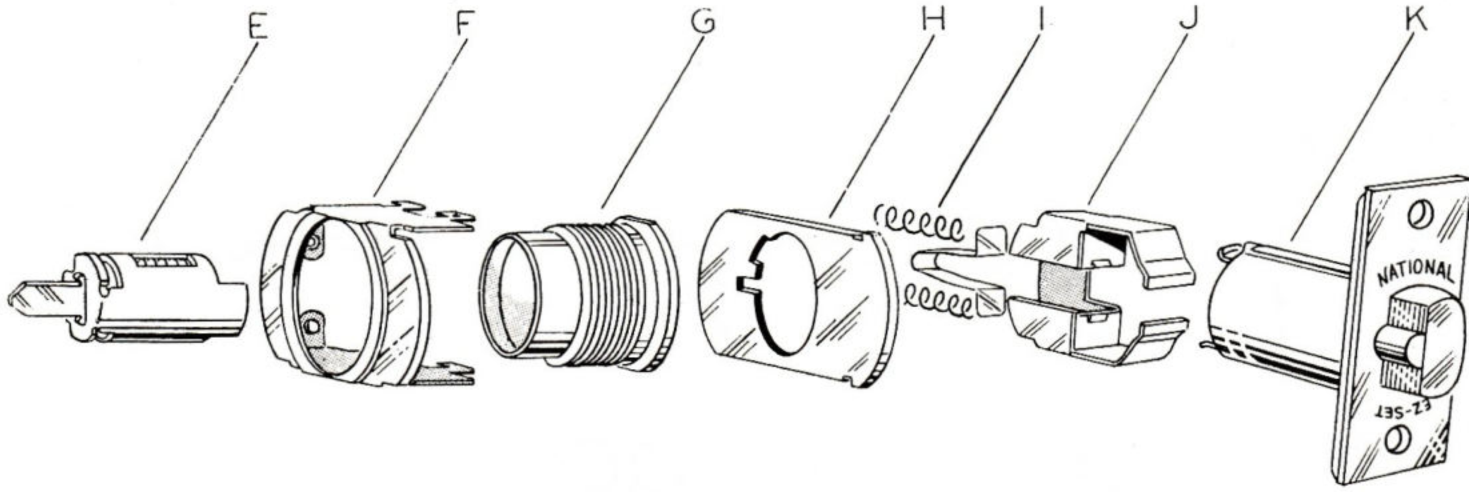
E-Z-SET NO. 160A ENTRANCE LOCKSET

Manufactured By

NATIONAL HARDWARE CORPORATION

Ozone Park, New York





A—Outside Knob

B—Cylinder

C—Outside Rose

D—Spindle

E—Cam Assembly

F—Retractor Case

G—Knob Bearing

H—Locking Slide

I—Retractor Springs

J—Retractor

K—Latchbolt

L—Locking Plate

M—Spindle

N—Turn Button Assembly

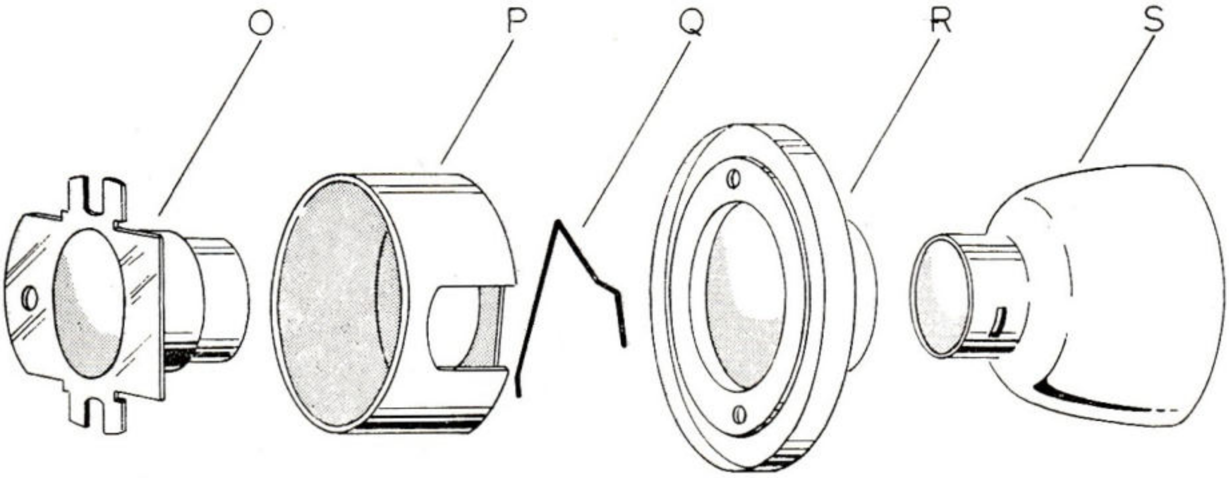
O—Knob Bearing and Case Support

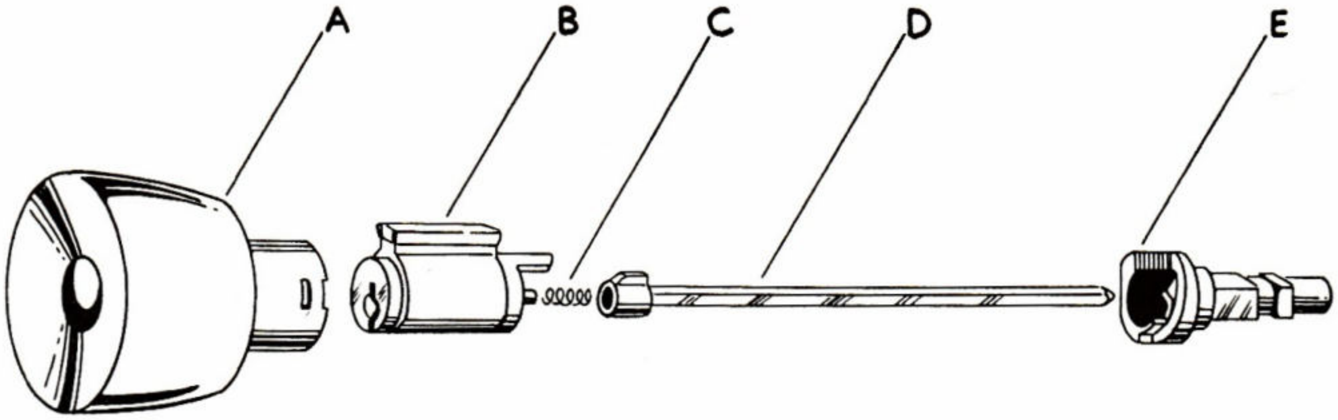
P—Retractor Housing

Q—Retractor Housing Retainer

R—Inside Rose

S—Inside Knob





EXPLODED LOCK VIEW

E-Z-SET NO. 900 ENTRY LOCKSET

Manufactured by National Hardware Corporation
Ozone Park, New York

A—Outside Knob

B—Cylinder

C—Spring

D—Turn Button Stem

E—Outside Spindle

F—Spring

G—Cylinder Housing

H—Locking Washer

I—Outside Rose

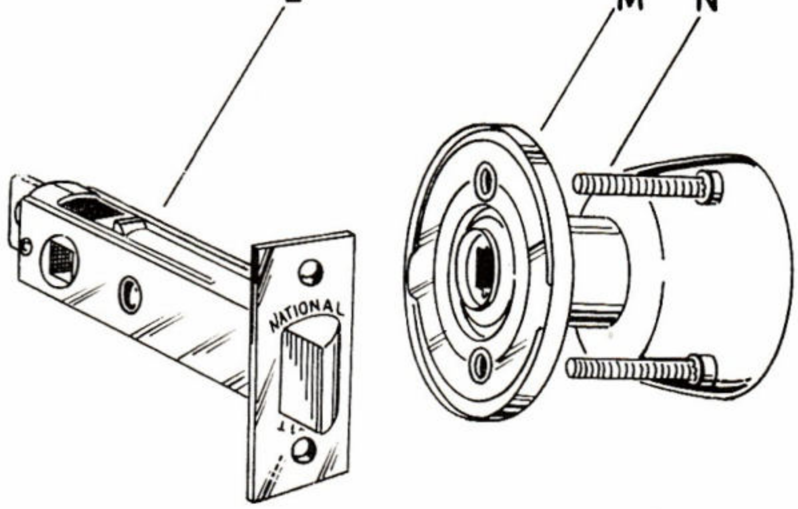
J—Retaining Nut

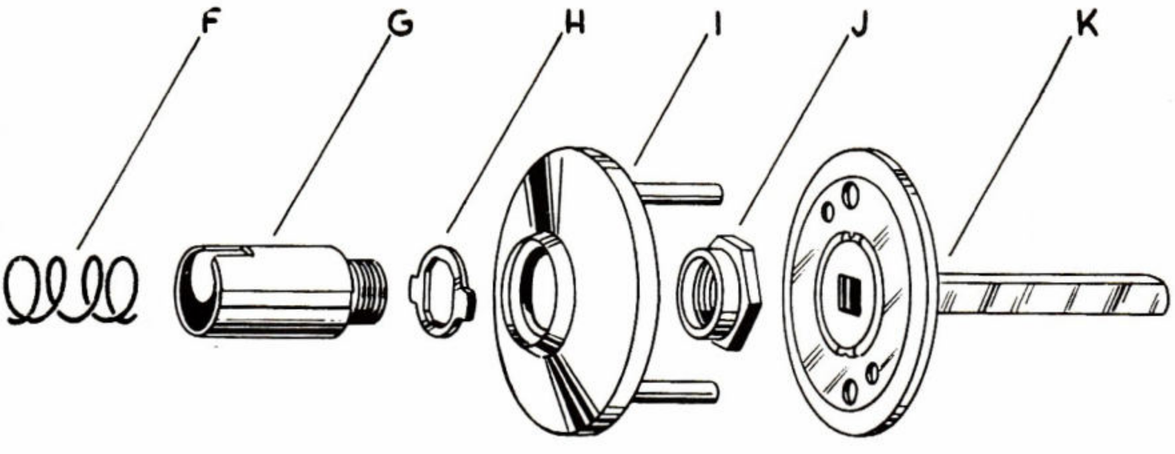
K—Inside Spindle and Plate

L—Latchbolt

M—Inside Rose and Knob Assembly

N—Lockset Anchoring Bolts





SERVICE NOTES

The inner action resulting from the rotation of the key is shown in Figure 1. In the top sketch, the plug is in its locked position. As the key is turned (bottom sketch), the cam attached to the rear of the plug, travels down a curved edge in the outside spindle "E", forcing it inward to engage the inside spindle "K".

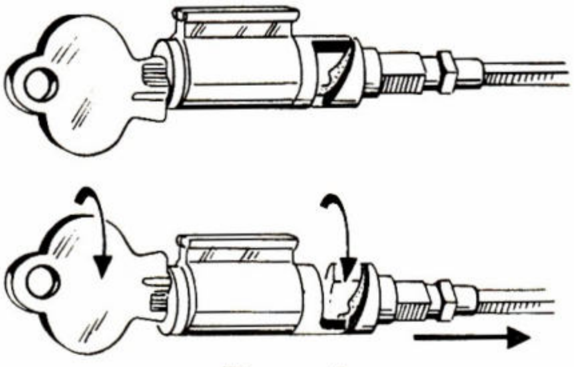


Figure 1

Figure 2 illustrates the disengaged and engaged positions of the spindles. In the top sketch, the spindle is disengaged, or locked. In this position, the outside handle will rotate but the latchbolt will not be retracted. As the key is turned, however, the outside spindle moves inward to engage the inside spindle (dotted portion in bottom sketch). Thus, as the outside knob is turned, the spindle rotates to retract the latchbolt.

In order to remove the cylinder for rekeying, the lockset must be disassembled from the door. After removing the anchoring bolts "N", the outside lock assembly is removed and disassembled as follows: Using a 7/8″ hex wrench (National Hardware Part No. 181), remove retaining nut "J" and lift off locking washer "H". Pry cylinder housing "G" out of outside knob and remove cylinder from knob.

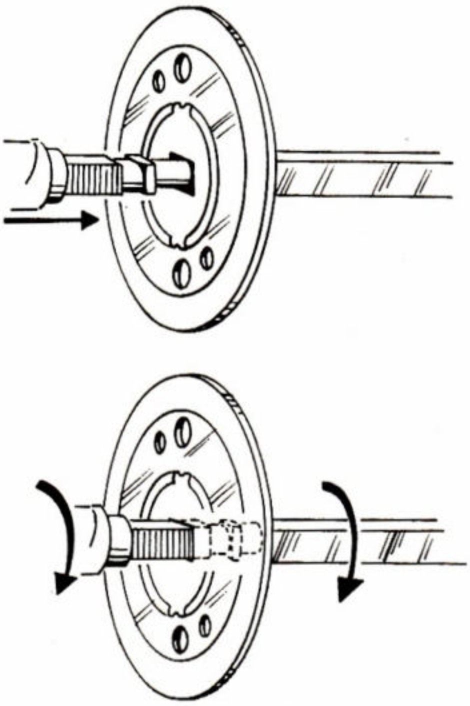
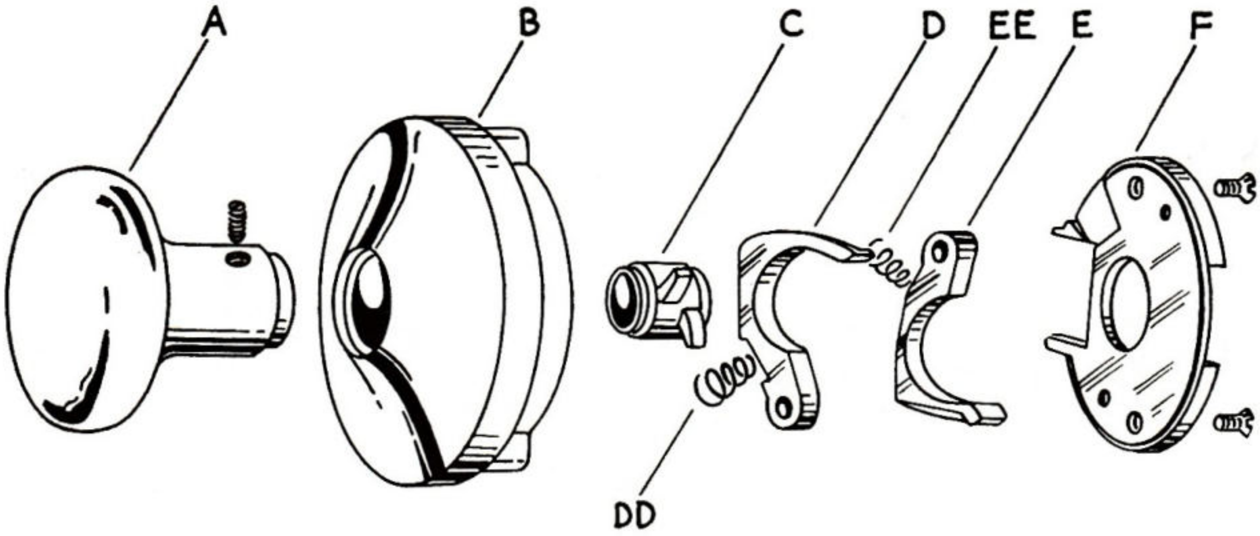


Figure 2

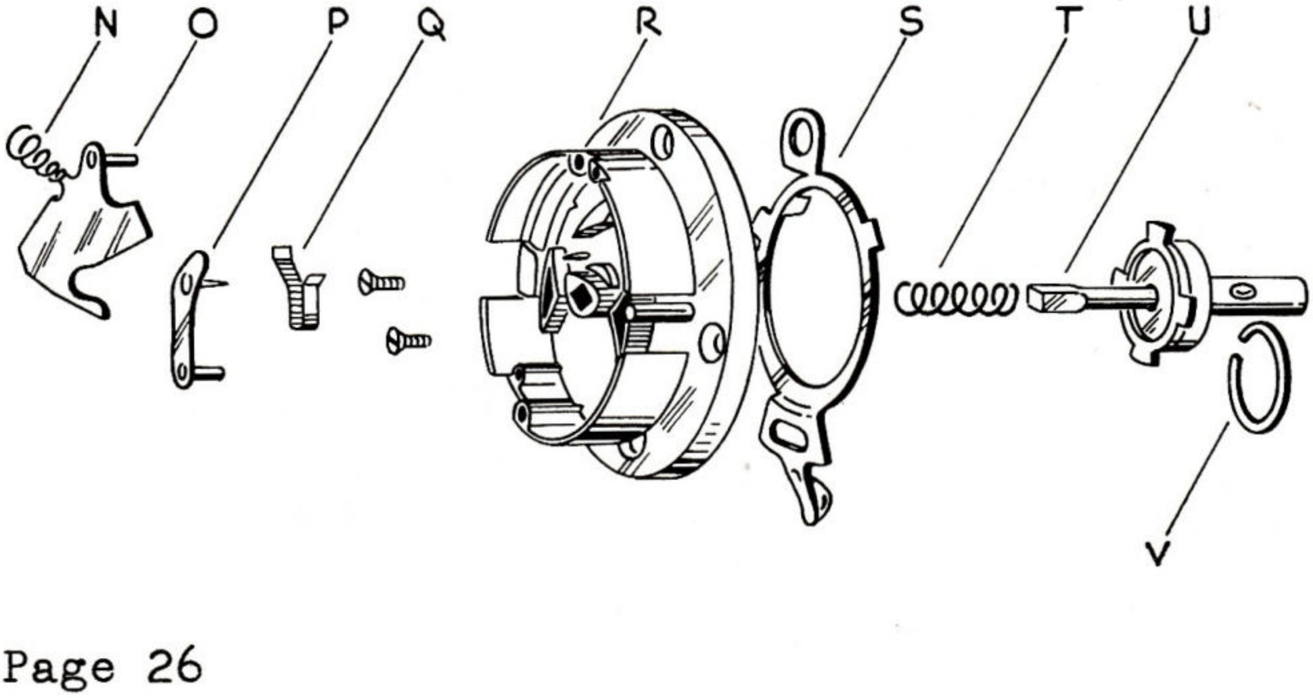


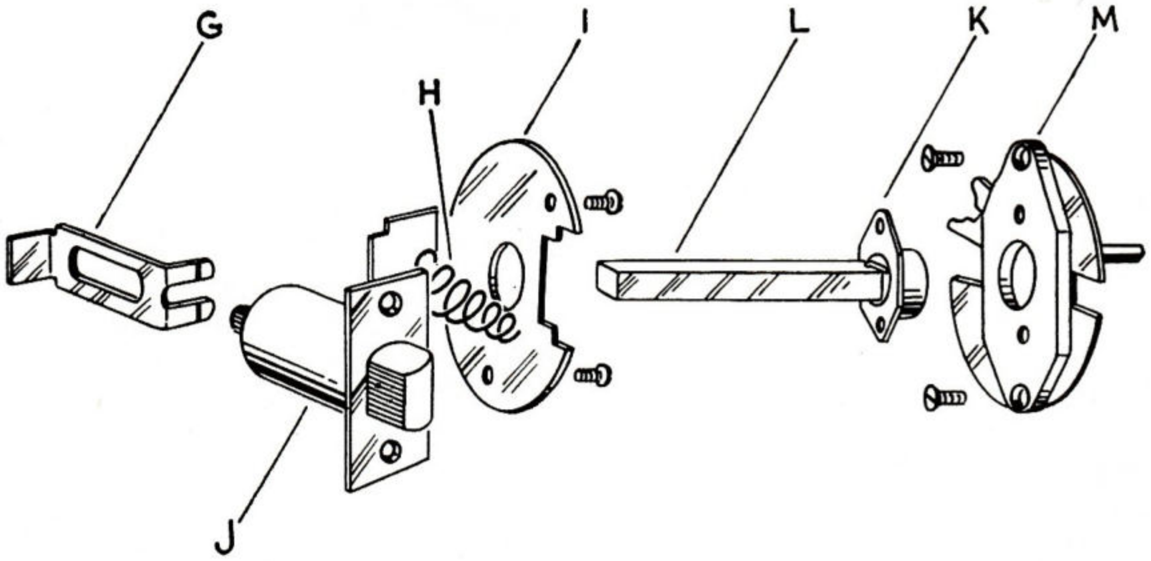
EXPLODED LOCK VIEW

Gougler No. 83

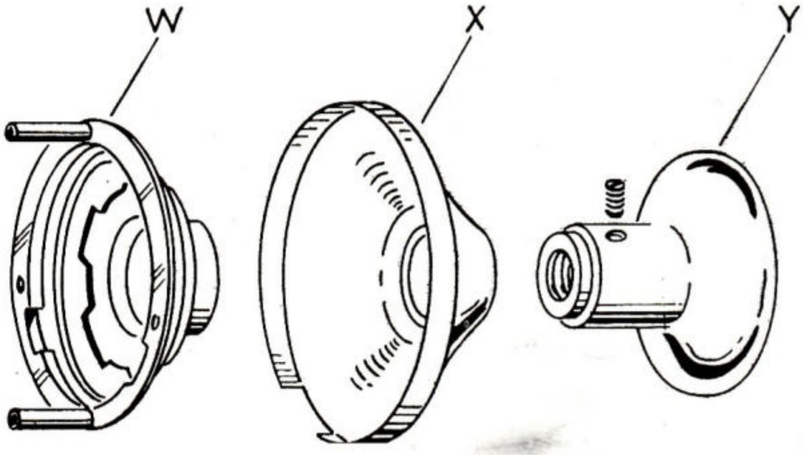
Combination Door Lock

Manufactured by The C. L. Gougler Keyless Lock Co., Kent, Ohio





A—Inside Knob and Set Screw
B—Inside Rose and Case
C—Hub
D—Activating Lever (right)
DD—Activating Lever Spring
E—Activating Lever (left)
EE—Activating Lever Spring
F—Inside Case Cover Plate
G—Latch Pull
H—Latch Pull Spring
I—Stop Plate
J—Latch Bolt
K—Spindle Plate
L—Spindle (Threaded)
M—Outside Case Cap Plate
N—Locking Lever Spring
O—Locking Lever
P—Vibrator (Selector) Arm
Q—Click Spring
R—Outside Lock Case
S—Combination Retaining Lever
T—Outside Knob Spring
U—Outside Spindle, Unthreaded
V—Spindle Bearing
W—Case Cover Plate
X—Outside Rose
Y—Outside Knob and Set Screw



SERVICE NOTES

GOUGLER NO. 83 LOCK

The operation of this lock is governed by turning the outside knob. No key is required to open the lock; opening is effected by rotating the outside knob in a predetermined sequence. When the proper number sequence has been dialed, the outside knob is pushed in and turned to open the lock.

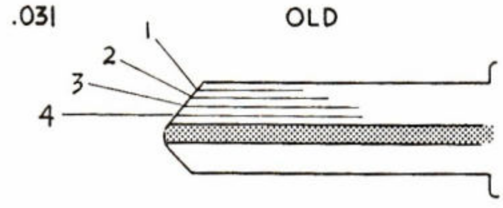
This action is the result of a split spindle. When in the unlocked position and with the outside knob pushed in, the outside spindle moves forward to engage the inside spindle, which then activates the latch bolt as the outside knob is turned. When in the locked position, the outside spindle is separated from the inside spindle, turning freely as the outside knob is turned.

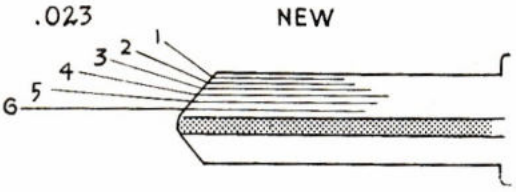
With the lock in the locked position, the outside knob can be pushed in slightly but the outside spindle will not engage the inside spindle since its passage is blocked by the locking lever "O". Opening of the lock, therefore, requires action to move the locking lever out of the spindle path to permit engagement.

A series of projections on the combination plate, permanently attached to the outer lock case "R", determines the opening sequence. As the dial is rotated, this plate also turns, with the vibrator arm "P" following a definite path between the projections. In the last knob rotation, the vibrator arm is caused to move in such a manner as to pull back the locking lever and free the spindle path.

IMPROVED KWIKSET CYLINDER HAS KEYING BASED ON SIX KEY CUTS

The present new Kwikset keying is based on ***six*** key cuts using .023″ increments, whereas the old system was based on four cuts of .031″ increments. There is no doubt that a skilled locksmith could handle wafers smaller than .023″ thick, and that the number of theoretical key changes could have been built up to astronomical figures by reducing the increments; but for practical usage in the factory, the .023 increment was found to be the best compromise for rapid, high production of cylinders. Cylinder assemblies are now being produced with *no filing* or other hand fitting, and at the same time it is possible to retain practical dimensional tolerances on component parts.

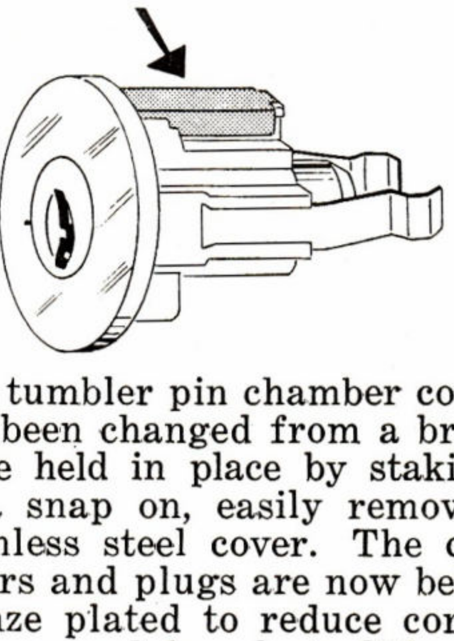




The change adds 6,750 more theoretical key changes to the Kwikset keying system. Actually, in the interests of security and convenience for the ultimate user, only approximately half of the theoretical change keys are used. The top two cuts, 1 and 2, are reserved for master keys; therefore, no random key is used with No. 1 and 2 cuts only. No change key is cut with more than three positions of the same cut. Thus, you cannot have, for instance, more than three two's, or three four's, etc., on any one key.

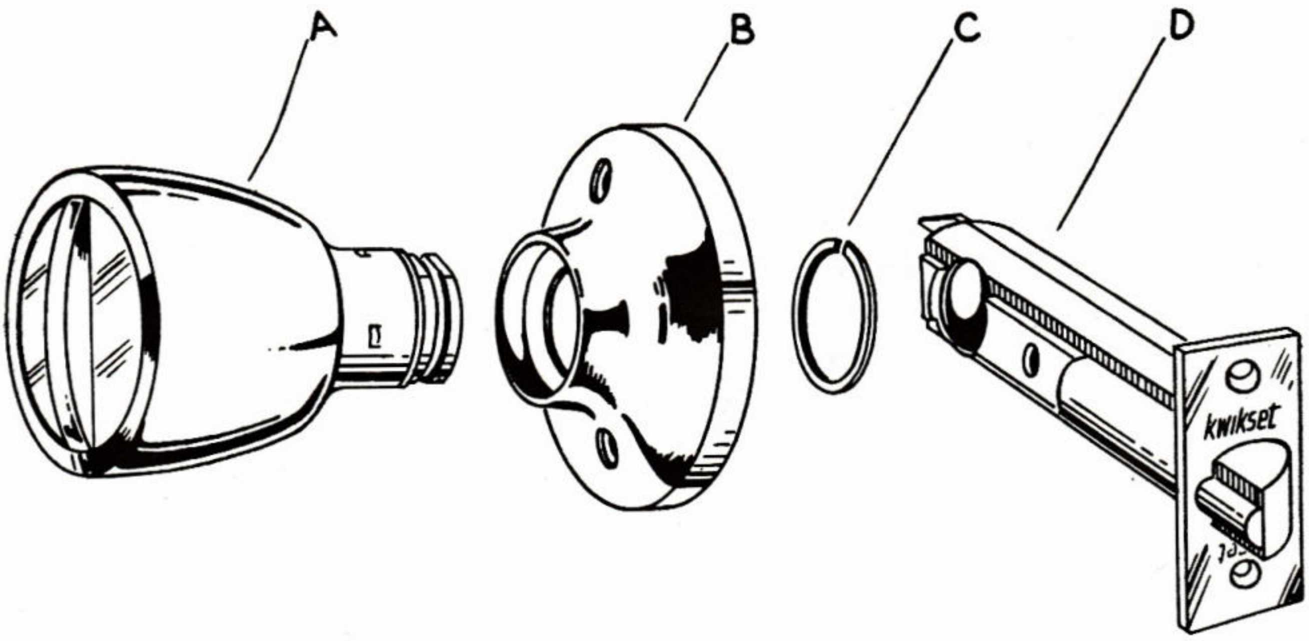
To maintain a smoother insertion or withdrawal of the key, the cuts next to each other do not differ more than three increments or .069″.

Several minor improvements to the cylinder assembly were made at the same time as the change in increments. The material for the tumbler pin springs has been changed from bronze to stainless steel wire. The spring pressure has been increased slightly, but, more important, the fatigue life of the spring has been increased.



The tumbler pin chamber cover has been changed from a brass plate held in place by staking, to a snap on, easily removed, stainless steel cover. The cylinders and plugs are now being bronze plated to reduce corrosion caused by electrolitic action between dissimilar metals.

Kwikset is also producing a new combination keying kit. It is a combination kit in that it has pins, springs and parts for rekeying all Kwikset cylinders keyed with the replaced .031 increments or the new .023 increments.

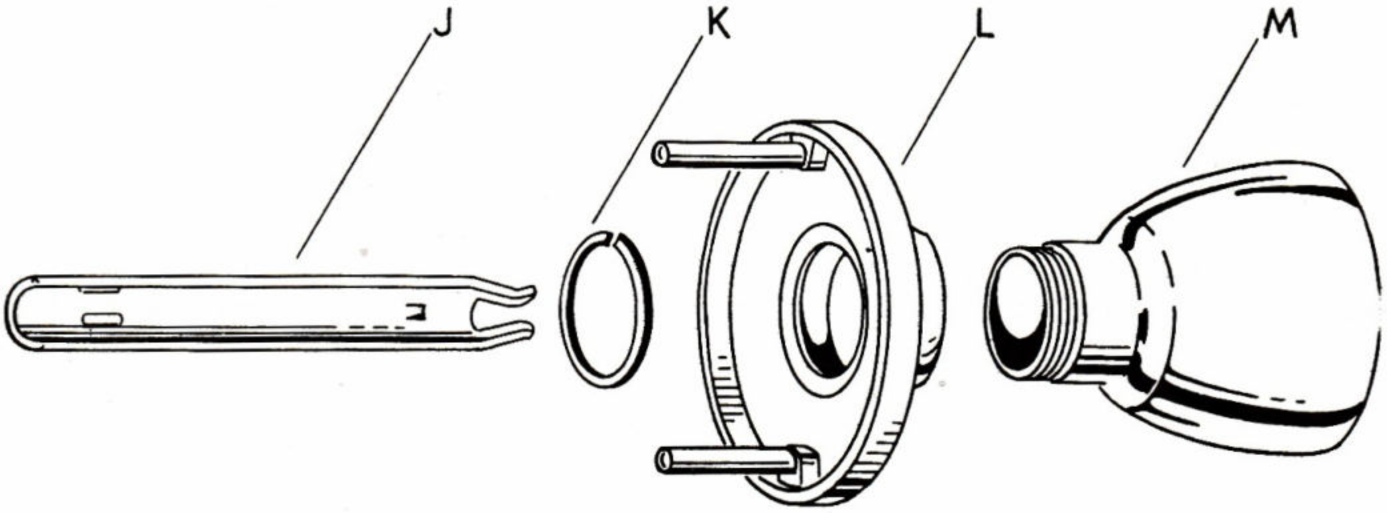


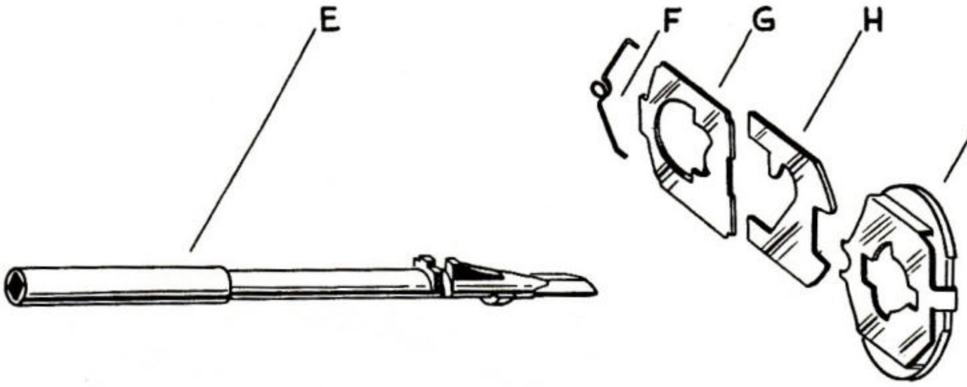
EXPLODED VIEW

KWIKSET NO. 400 (Improved)

**Manufactured by Kwikset Locks, Inc.,
Anaheim, California**

A—Inside Knob
B—Inside Rose
C—Ring Retainer
D—Latchbolt
E—Deadlocking Spindle
F—Spring
G—Detent (Retainer for Deadlocking Spindle)
H—Travel Stop
I—Case for Travel Stop, Detent, and Spring
J—Spindle
K—Ring Retainer
L—Outside Rose
M—Outside Knob
N—Plug Retaining Spring
O—Cylinder (Note spring retainer prongs)
P—Plug





SERVICE NOTES

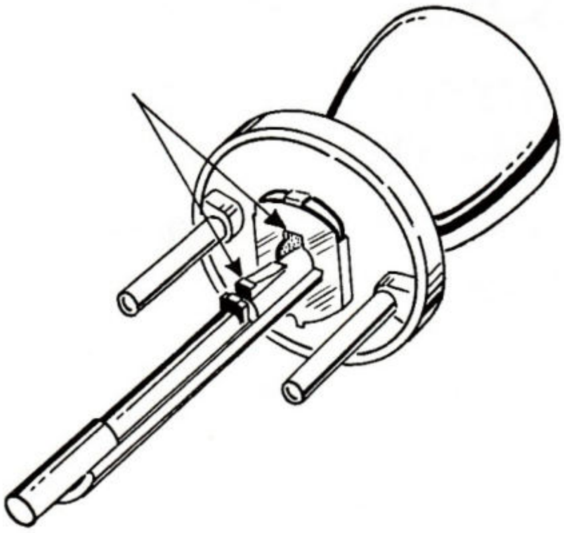


Figure 1

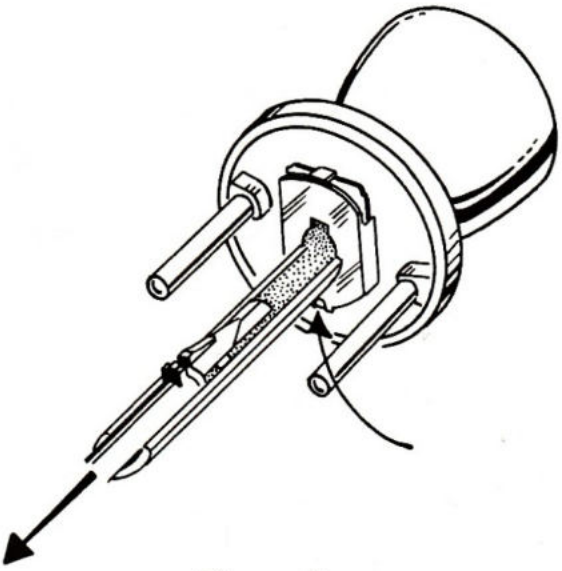
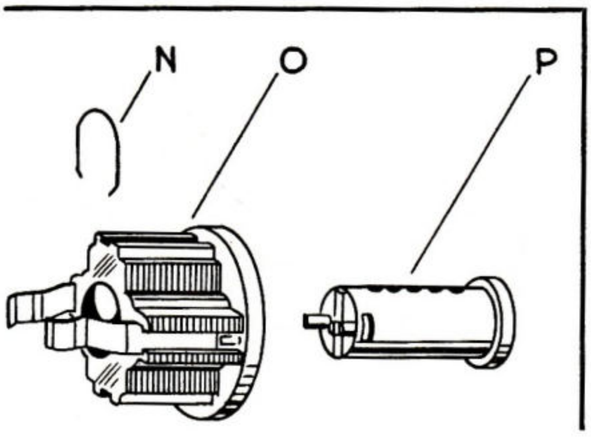
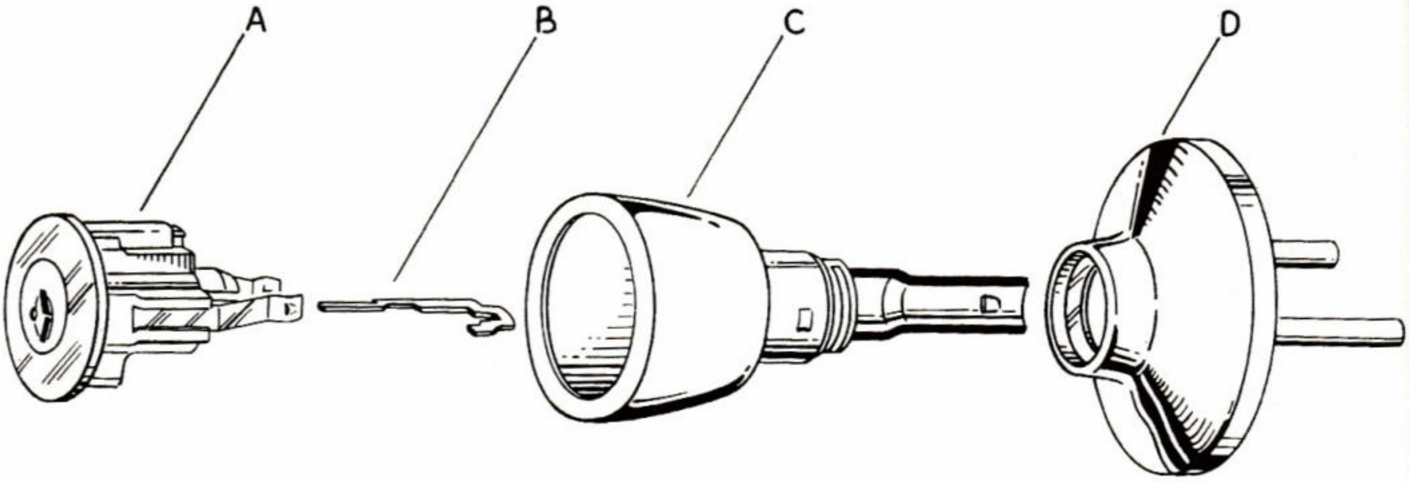


Figure 2

To reverse the cylinder, remove the key from the cylinder. Then, line up the top boss of the deadlocking spindle with the slot in the detent case. (See Figure 1). While holding the knob assembly downward, depress the detent at the point shown in Figure 2 (beneath half-round spindle), which will permit deadlocking spindle to drop out.



Insert a cylinder removing tool through the lock housing (into space vacated by deadlocking spindle) and pinch together the two cylinder retainer prongs. Slide cylinder out of knob. Reverse cylinder, then replace into knob by lining up guides in knob and pushing inward until retainer prongs snap into position. Replace deadlocking spindle by lining up its boss with its slot in the detent case and pushing inward until the detent snaps into position.



EXPLODED LOCK VIEW

KWIKSET HOTEL-MOTEL LOCKSET
NO. 407 and 407B

MANUFACTURED BY KWIKSET DIVISION

The American Hardware Corporation
Anaheim, California

A—Cylinder

B—Occupancy Pin Indicator Rod and Lockout Actuator

C—Outside Knob

D—Outside Rose

E—Retainer

F—Lock Housing

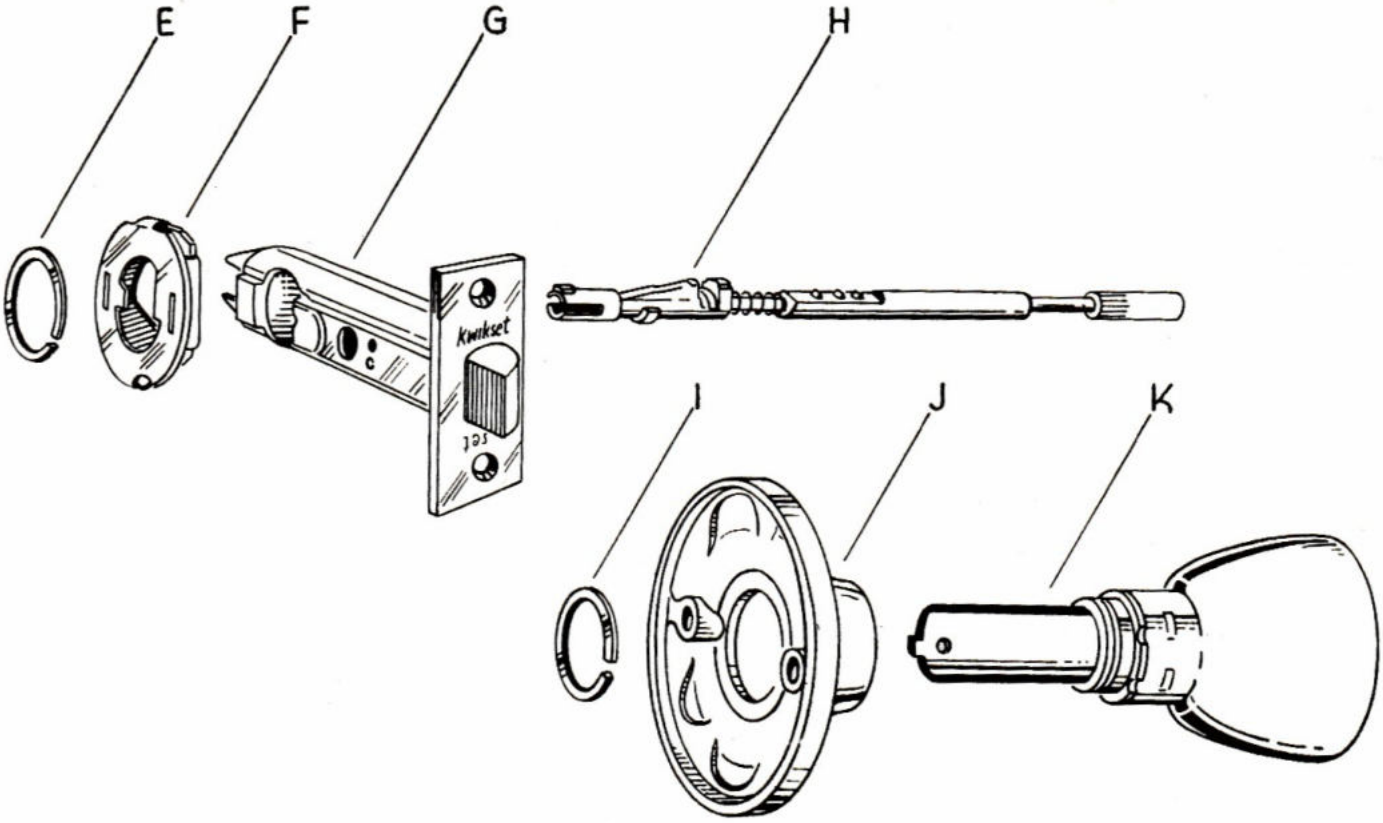
G—Latchbolt

H—Interior Spindle

I—Retainer

J—Inside Rose

K—Inside Knob



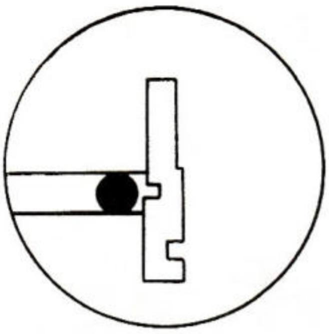


Figure 1

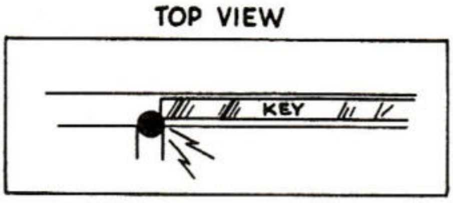


Figure 2

SERVICE NOTES

This lockset provides an occupancy indicator, which protrudes from the face of the cylinder when the inside button is depressed. When the indicator is showing, both the regular key, and the master key, will be blocked from fully entering the keyway, thus assuring privacy to the occupant. When the indicator is not showing, the lock can be opened with a regular or master key.

A special lockout feature also is provided so that management may set the lock to prevent a tenant from entering the room. Engaging the lockout feature prevents both the regular and master key from entering the keyway; only the special lockout key will open the lock.

The lockout action results from a special ball that is contained within the plug (Figure 1). When the lockout ball is activated, it moves into the keyway and blocks the passage of the key. (Figure 2) The ball itself rides in a special hole that is drilled at a right angle to the keyway; position of this hole is between the fourth and fifth pin chamber.

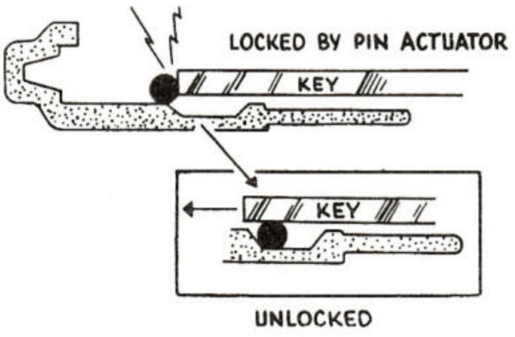


Figure 3

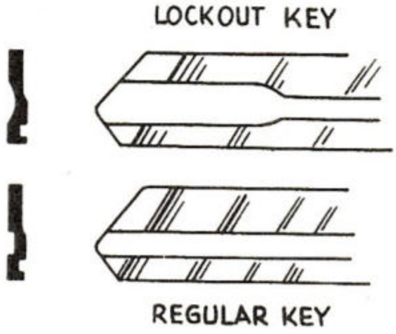
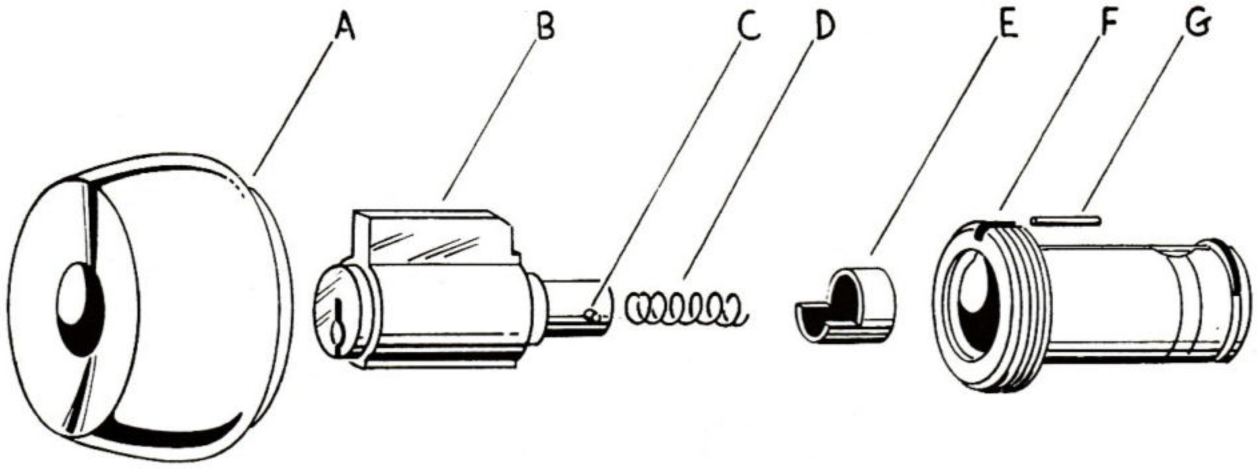


Figure 4

The lockout actuator controls the locking or unlocking [illegible]ion of the lockout ball, while the inside push button controls the action of the actuator. A push button that is set at unlock permits a groove in the actuator to be positioned behind the passageway of the lockout ball. In this position, the occupancy pin indicator, which is the outer tip of the actuator, does not protrude from the face of the cylinder. Depressing the button, however, not only pushes out the pin indicator, but it also moves a lug in front of the locking ball pass[illegible]ay. (Figure 3) Thus, the ball is blocked from sliding out of the keyway and, i[illegible]rn, the ball blocks the entrance of the regular or master key.

The special lockout key that will open a lock set on a lockout opens the lock because of an additional milling, which widens the groove to by-pass the locking ball. The difference between the regular and master key groove, and the lockout key groove is shown in Figure 4.

Key combination changes are made in the normal manner since the cylinder is held to the knob by the standard Kwikset prongs. A wire snap ring holds the plug in the cylinder. To disassemble, remove the cylinder from the knob and remove the key from the cylinder; at this point, the lockout actuator and the lockout ball will drop out. Unsnap the retainer and remove the plug in the normal manner. After reassembling plug, place lockout ball in its hole and replace the actuator.

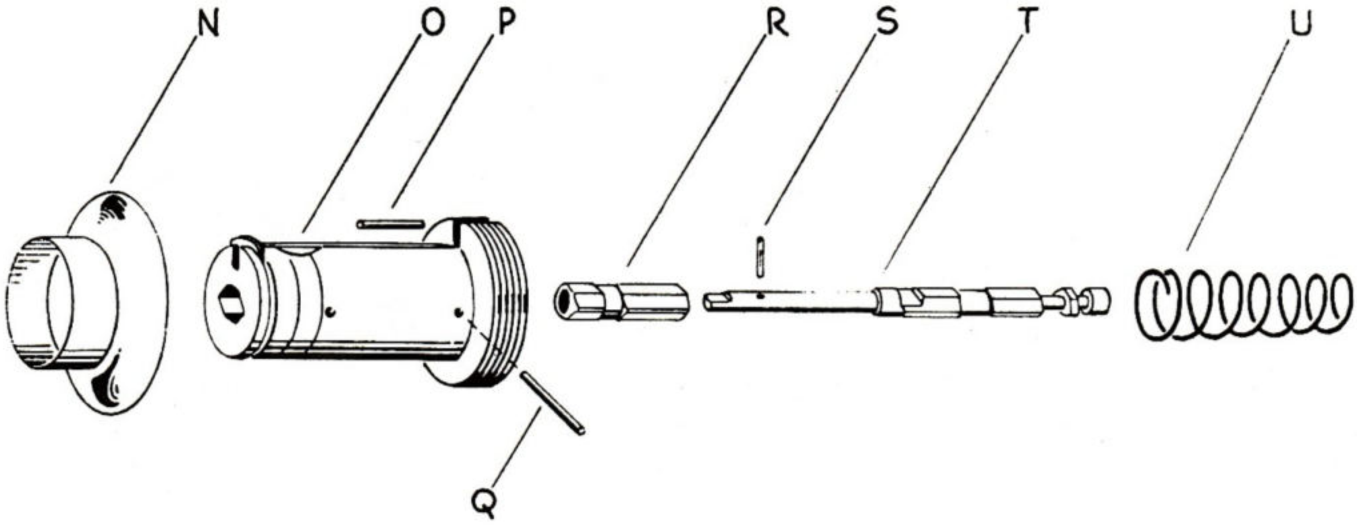


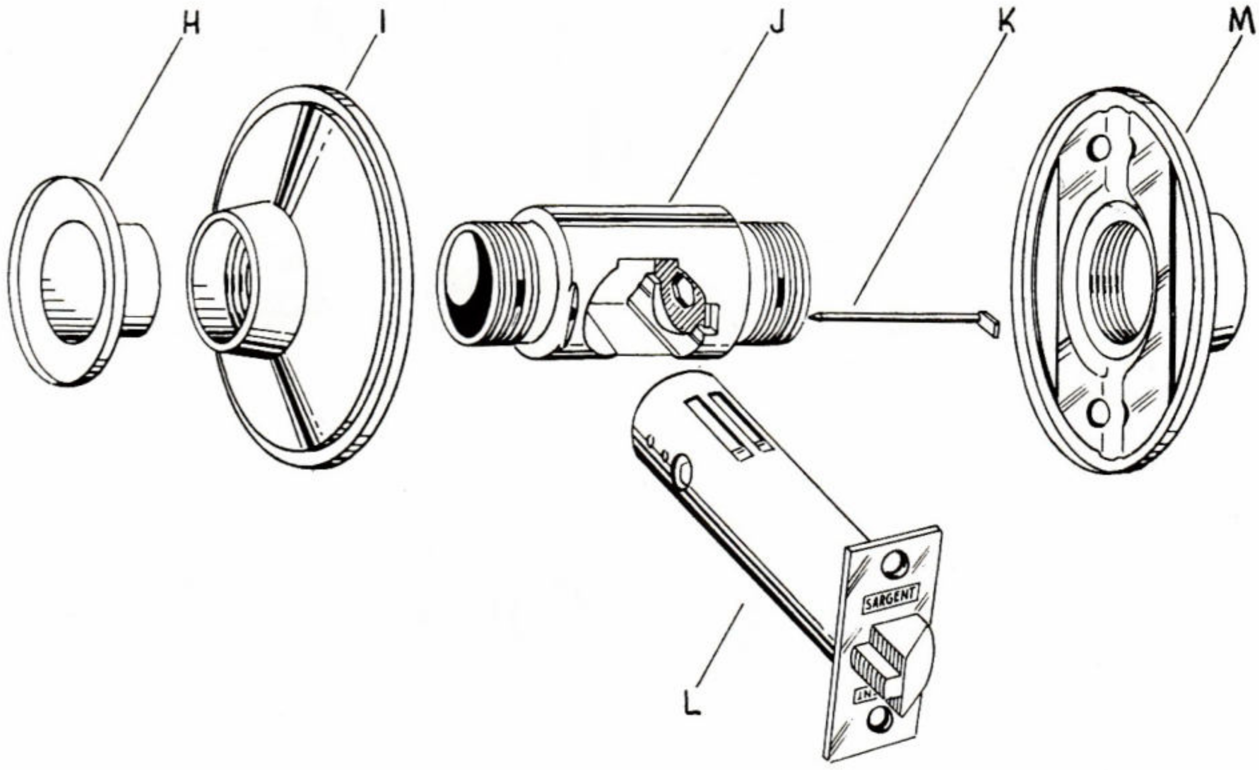
EXPLODED LOCK VIEW

"2" LINE/ALIGNALOCK

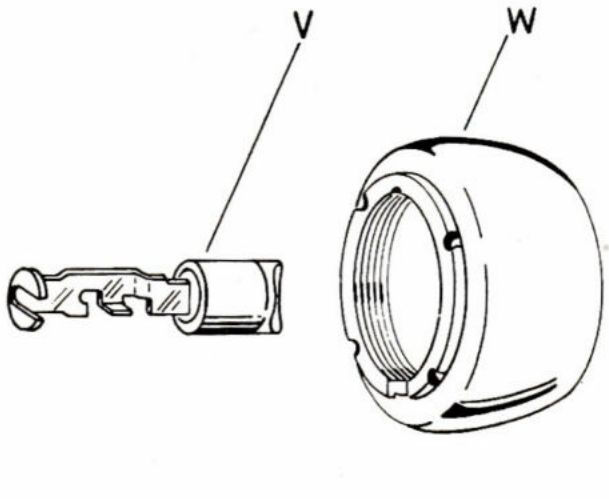
Manufactured by Sargent & Company

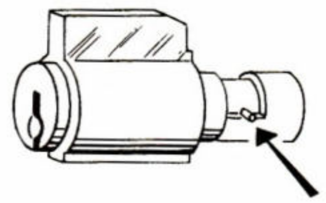
New Haven, Connecticut



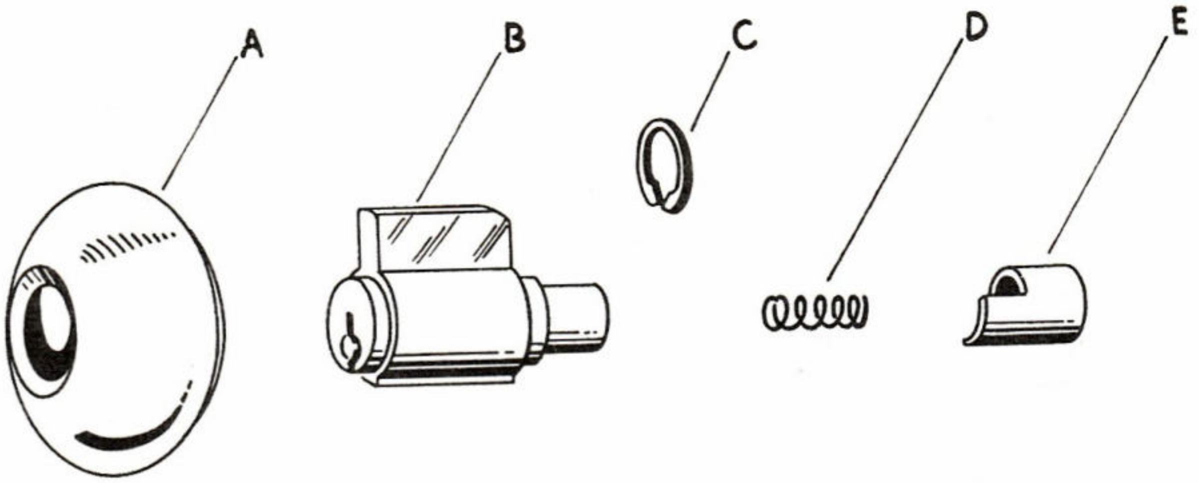


A—Outside Knob
B—Cylinder
C—Cam Pin
D—Spring
E—Cam
F—Knob Shank
G—Knob Shank Retaining Pin
H—Knob Cap
I—Rose Plate
J—Knob Bridge Housing
K—Latchbolt Keeper
L—Latchbolt
M—Rose Plate
N—Knob Cap
O—Knob Shank
P—Knob Shank Retaining Pin
Q—Locking Button Stop Pin
R—Sliding Spindle Segment
S—Spindle Segment Pin Stop
T—Spindle
U—Spring
V—Locking Button
W—Inside Knob





Locking and unlocking action is controlled by the cam pin (arrow). As the plug is rotated, the cam pin will butt against the cam and will rotate cam to effect either locking or opening.

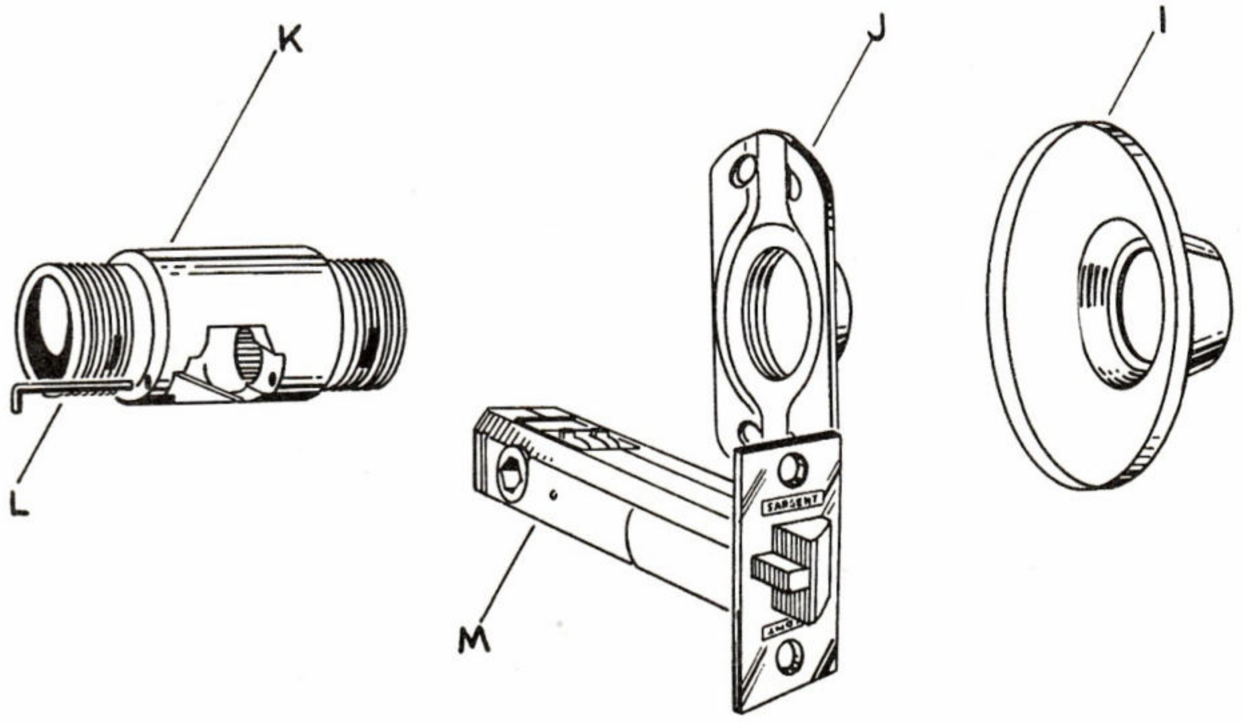


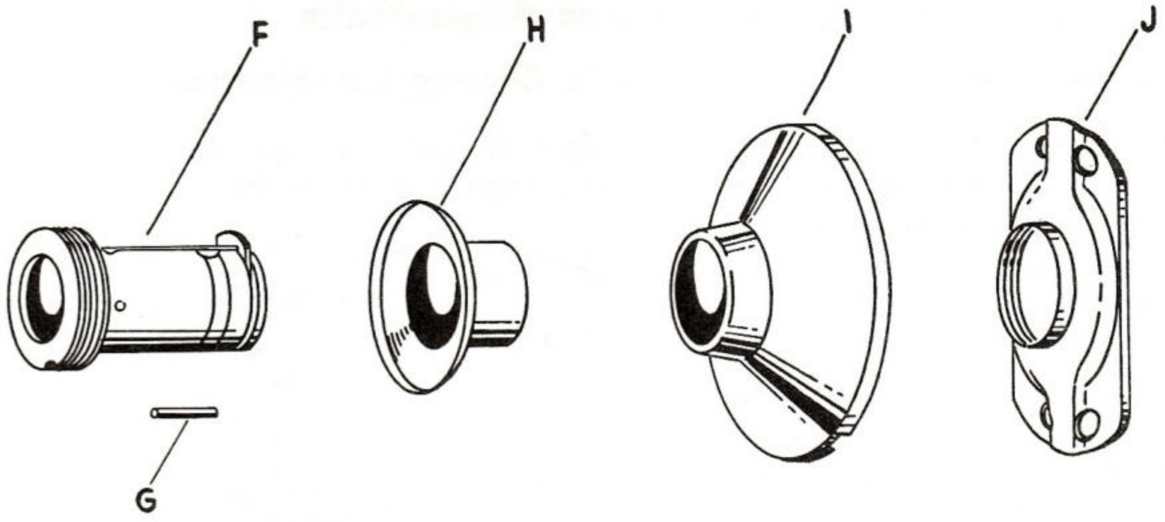
EXPLODED LOCK VIEW

SARGENT ALIGNALOCK

Models 2U05, 2G05, 2G63

Manufactured by Sargent & Company
New Haven, Connecticut





A—Outside Knob

B—Cylinder

C—Plug Retainer

D—Spring

E—Cam

F—Knob Bearing & Spindle

G—Hollow Pin

H—Knob Collar

I—Rose Plate

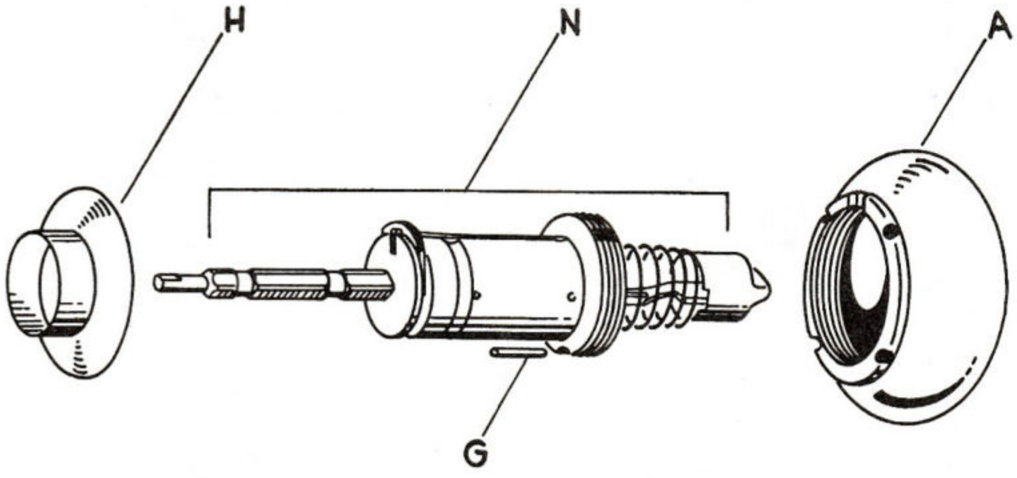
J—Inner Rose Plate

K—Aligner

L—Aligning Pin

M—Latchbolt Assembly

N—Turnbutton Assembly



Service Notes For Sargent Alignalocks

Removing Cylinder to Fit Keys or to Change Combination

1. The lock must be in the open position. If the key is not available, unlock the lock with the turn button. If this is not possible, pick open the cylinder.
2. Pry the outside rose from the rose plate by inserting a screwdriver into the notch at the edge of the rose (See Figure 1).

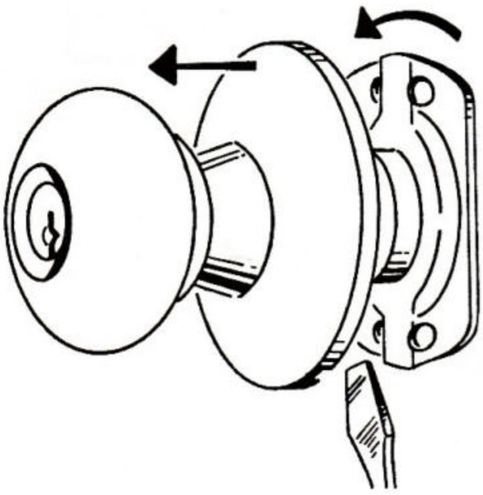


Figure 1

3. Loosen the inner rose plate by rotating it with a screwdriver being tapped with a light hammer. Then, back off the inner rose plate by hand. (See Figure 1).

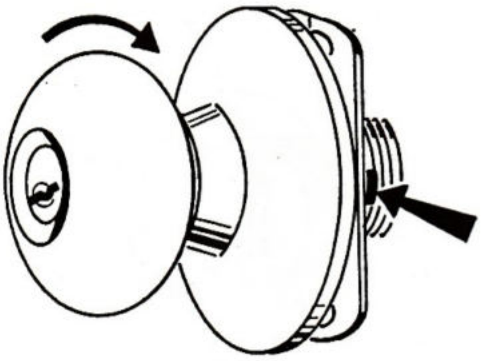


Figure 2

4. Rotate the *unlocked* outside knob until the knob retainer spring can be seen through the hole in the aligner (See arrow in Figure 2). Then, depress the knob retainer spring with a screwdriver or similar tool and pull the knob through the aligner.

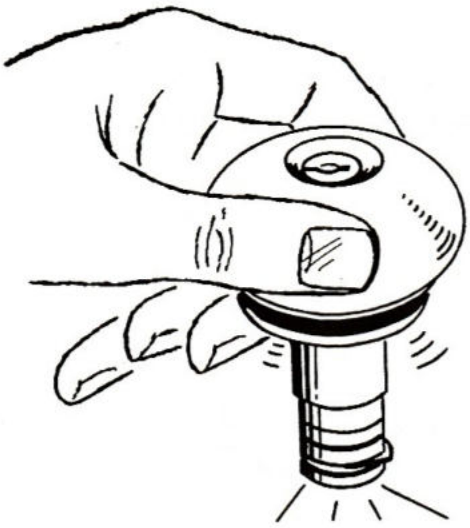


Figure 3

5. Tap the knob sharply on the workbench to loosen the knob collar (See Figure 3). Pull the knob collar from the knob spindle.

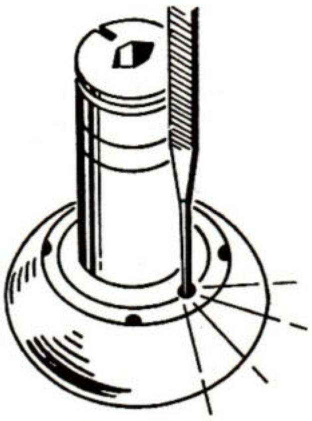


Figure 4

6. Drive the hollow pin (which anchors the knob spindle to the knob) into the knob with a small punch (See Figure

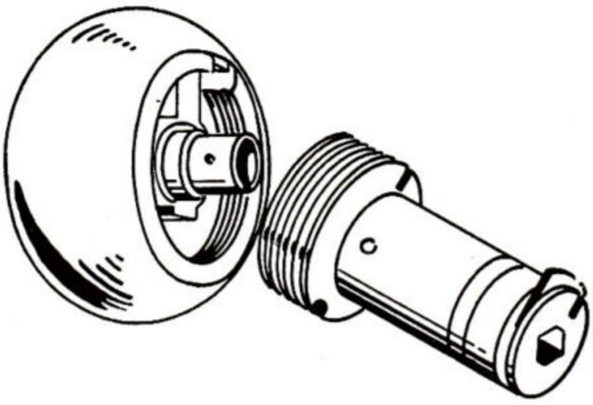


Figure 5

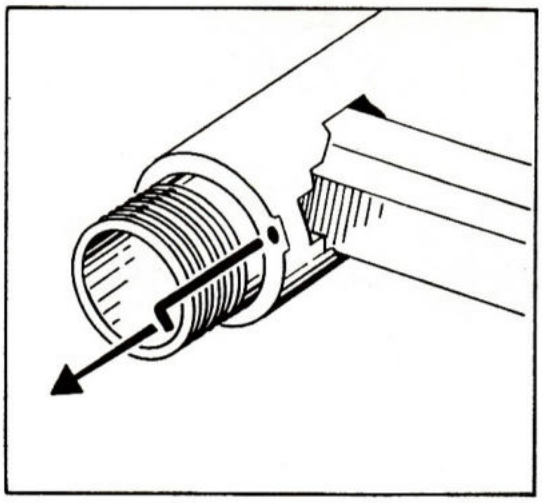


Figure 6

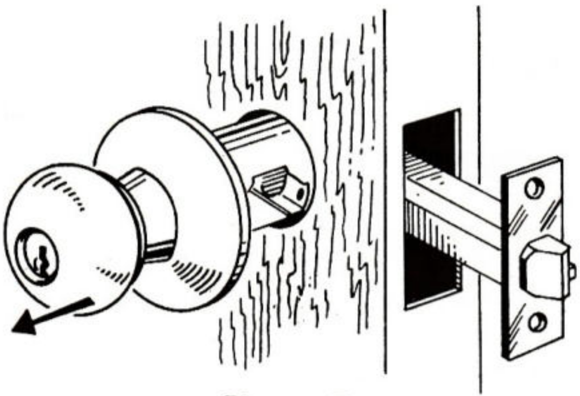


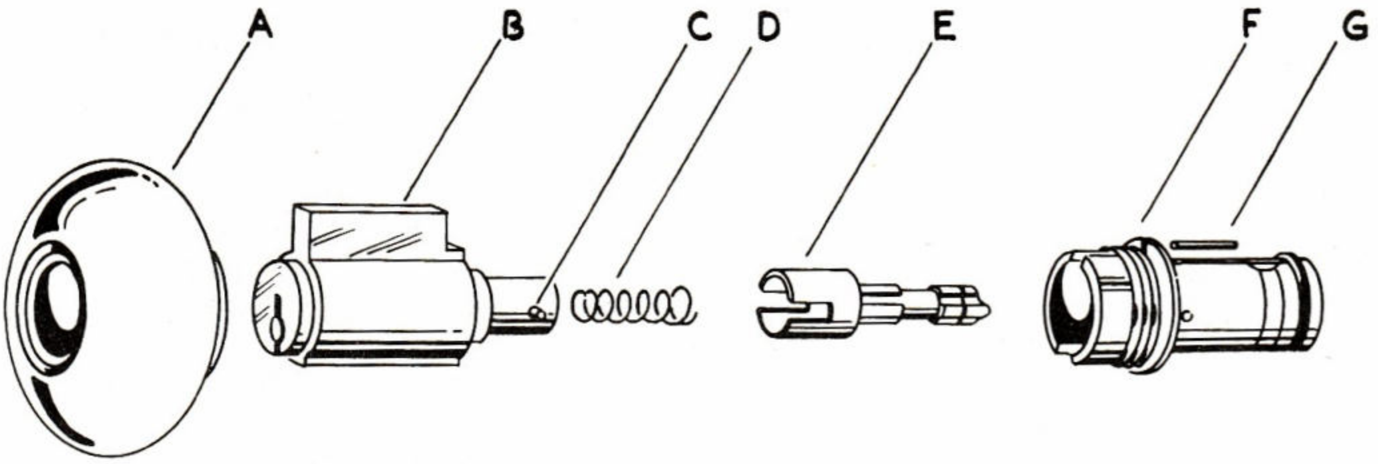
Figure 7

4). Do not destroy or lose this pin! It will be needed for the reassembly.

7. Unscrew the knob spindle from the knob (See Figure 5). Remove the cylinder and the hollow pin from the knob.
8. Follow the normal procedure for fitting a key or for changing a pin combination.

Removing the Latch Bolt

1. Remove the *inside* knob by following steps 1 through 4 given above.
2. Pull the aligning pin from the aligner and latchbolt case (See Figure 6).
3. Remove the outside knob and the aligner by merely pulling them from the door. Then, pull out the latchbolt. (See Figure 7).



EXPLODED LOCK VIEW

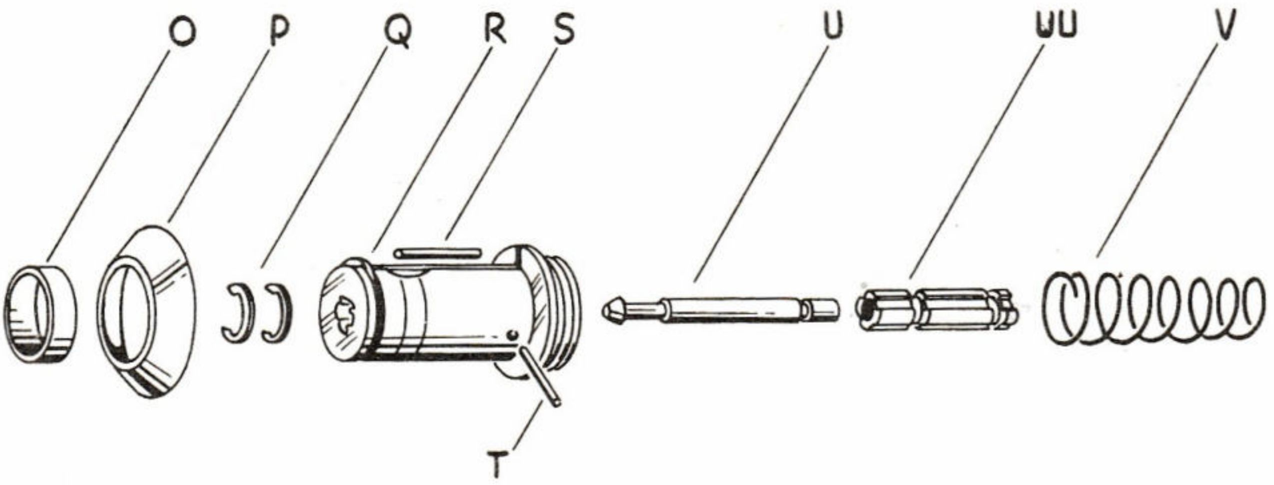
SARGENT MAGNALOCK

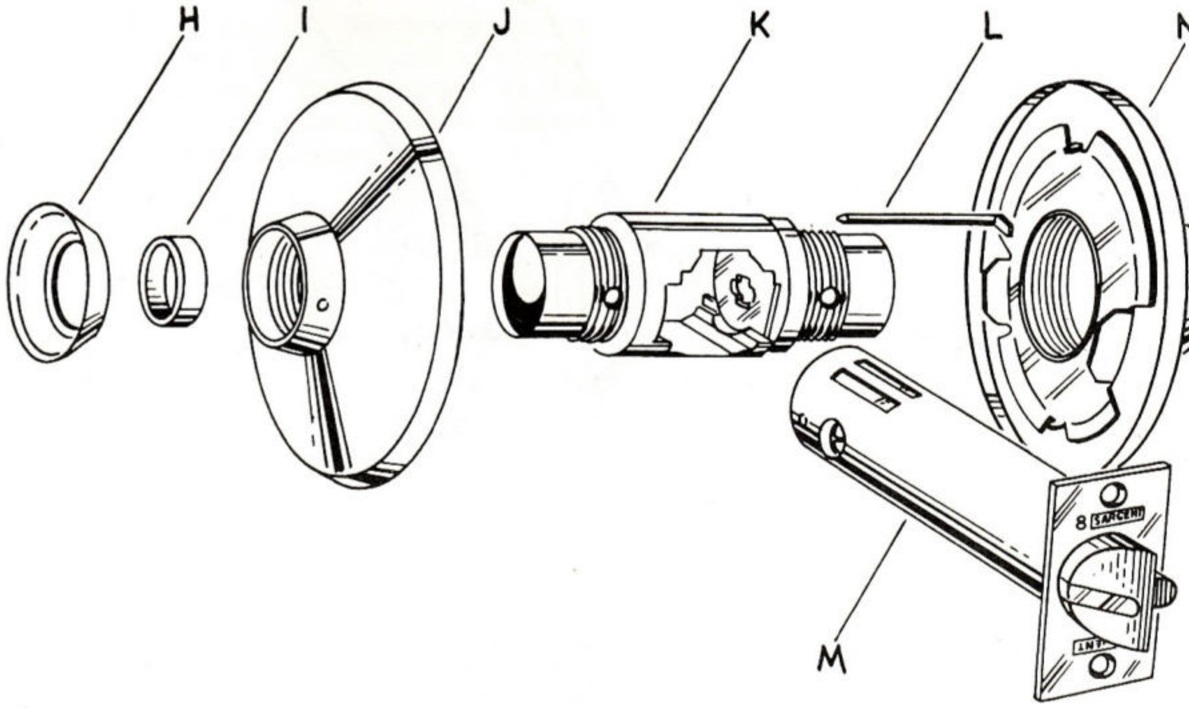
Manufactured by

Sargent & Company
New Haven, Connecticut

A—Outside knob
B—Cylinder
C—Cam Pin
D—Spring
E—Outside Locking Bar
F—Outside Knob Shank
G—Shank Pin
H—Outside Knob Collar
I—Plastic Collar
J—Outside Rose
K—Aligning Tube
L—Latch Retaining Pin
M—Latchbolt

N—Inside Rose
O—Plastic Collar
P—Inside Knob Collar
Q—Inside Locking Bar Retaining Rings
R—Inside Knob Shank
S—Shank Pin
T—Push Button Assembly Retaining Pin
U - UU—Inside Lock Bar
V—Spring
W—Push Button (Nylon)
X—Inside Knob





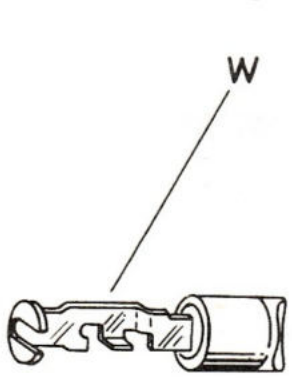
SERVICE NOTES

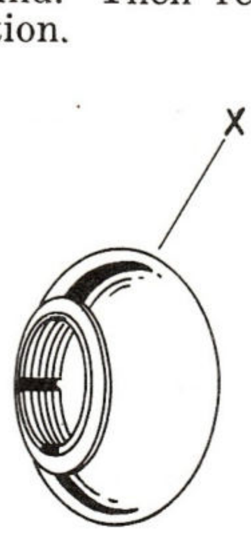
Each knob is removed from the aligner by rotating the knob to expose the knob retainer; then, by depressing the retainer while pulling the knob free. When installing this lockset, note that the latchbolt is fastened within the aligner by the L-shaped pin "L", which cannot be removed until the inside rose plate is removed.

To disassemble outside or inside knob, drive shank pin "G" into knob with punch. Unscrew knob shank. Lift out cylinder or push button assembly. Note that the activating cam consists of a pin placed into the plug tailpiece (see arrow in Figure 1).

The cylinder can be disassembled by prying away its retainer ring at the plug tailpiece and using a follower in the normal manner.

When reassembling knob shank into knob, screw knob shank inward until halves of shank pin line up with each other to result in a tight bind. Then replace the shank pin to hold the knob shank in position.





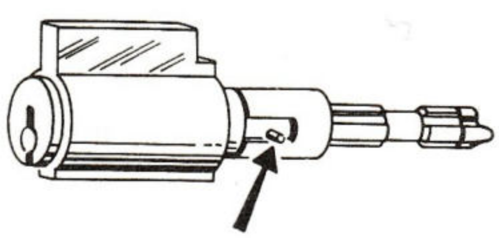
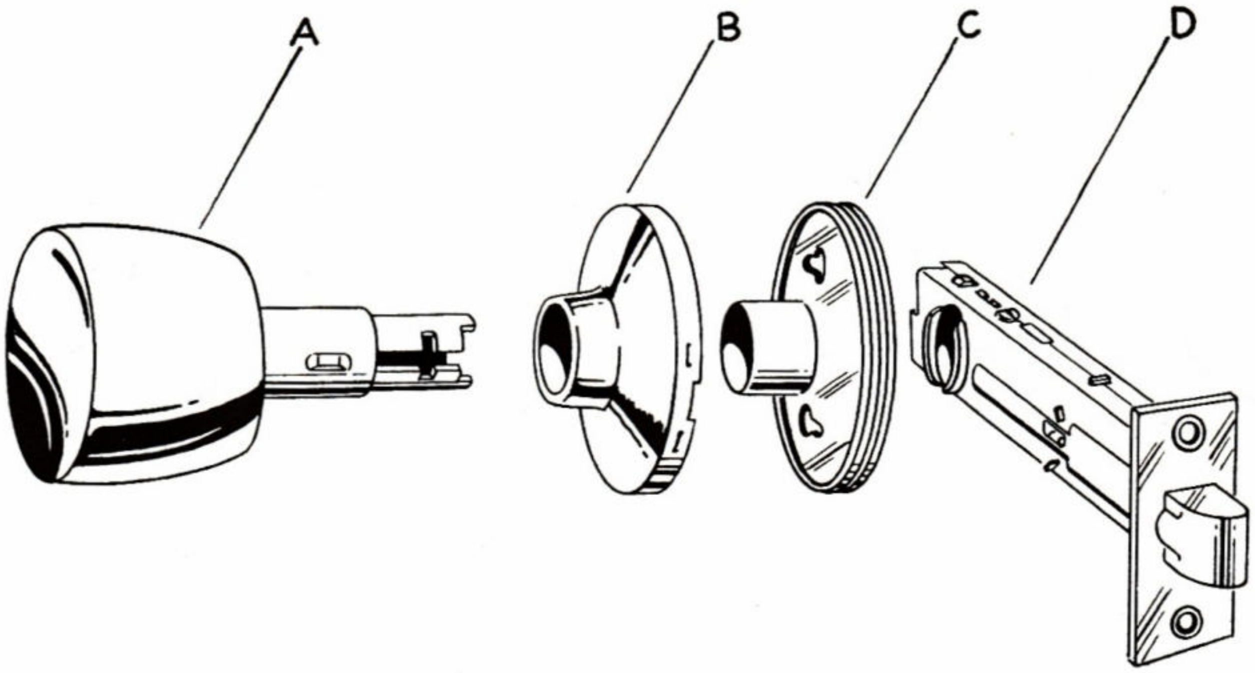


Figure 1



EXPLODED VIEW

Schlage "J" Series

Manufactured by Schlage Lock Co.,
San Francisco, California

A—Outside Knob

B—Outside Rose

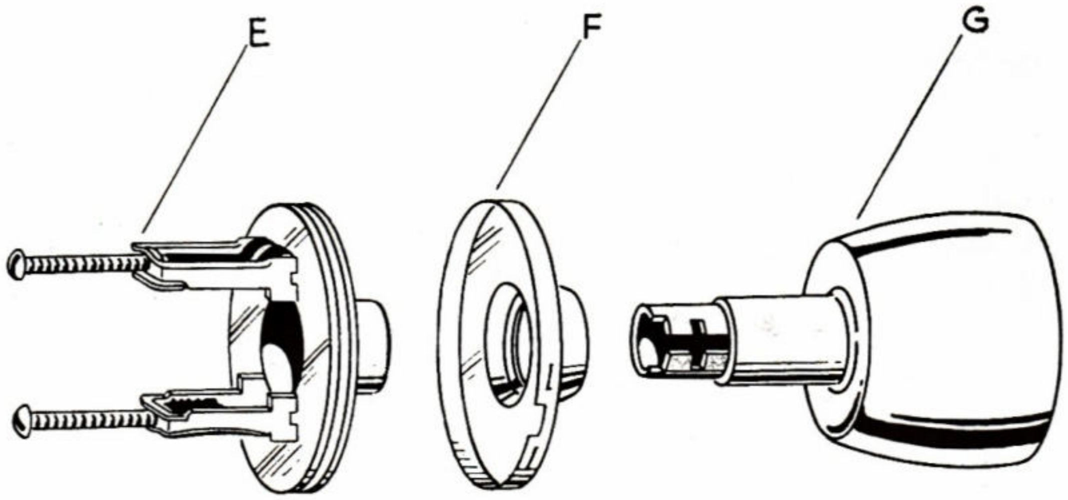
C—Outside Rose Mounting Plate

D—Latchbolt

E—Inside Rose Mounting Plate and Gripper Assembly

F—Inside Rose

G—Inside Knob



SERVICE NOTES

The lockset shown here is non-locking, and is reversible, that is, the inside knob also can be used as the outside knob depending on the hand of door. The strike is flush-mounted on the side of the door, requiring only a hole through the side of the door for the case of the latch-bolt.

The latch is held to the inside rose assembly by lugs on the top and bottom of the back end of the latch (above and before activating hole). Grippers extending from the inside rose assembly engage the lugs (See Figure 1). The grippers engage and disengage the latch lugs by turning the mounting screws. Figure 2 shows this action—the top illustration shows the screw holding the gripper in its engaged position; the bottom shows the disengaged position.

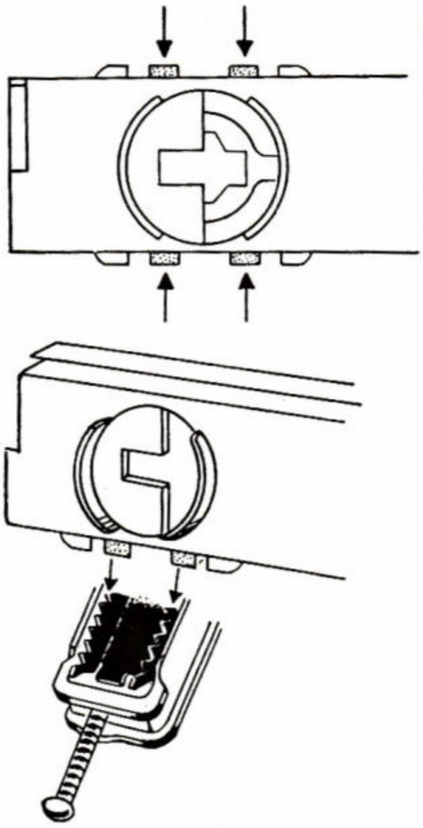


Figure 1

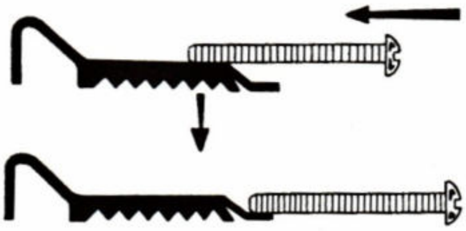


Figure 2

The knobs hook directly into the latch and are held there by retainer plates, which are enclosed in the latch case. However, in order to insert the knobs, the latch bolt must be over depressed into the case. This will force the retainer plates back to receive the knobs. The small tool, shown in Figure 3, is needed to over-depress the bolt. A small tab on the tool (See arrow) hooks under the strike when the bolt is over-depressed.

The three positions of the latch bolt are shown in Figure 4. The normal or extended position is shown at the top; the black area is the knob retainer plate. When the latch is depressed, the knob retainer moves back, but not far enough to permit installation or removal of the knobs. Over-depressing the bolt (bottom) moves the retainer back enough to permit the knobs to be installed or removed. Note that a small plate slides under the hole in the middle of the case when the bolt is over-depressed.

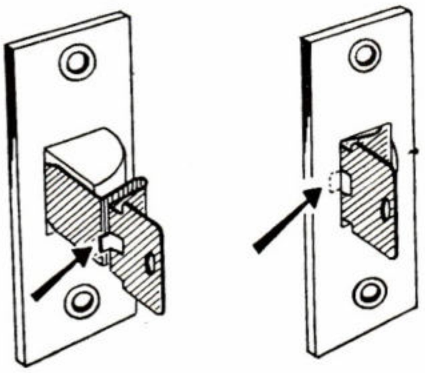


Figure 3

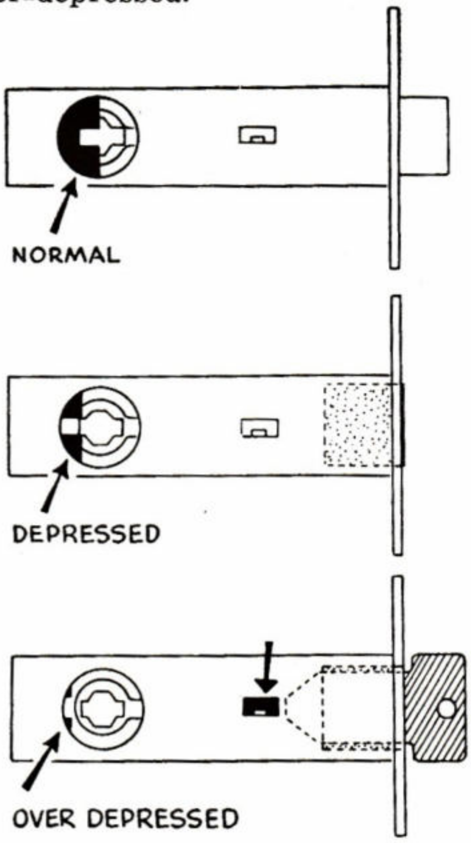


Figure 4

If knobs do not engage, insert finger into latch hole and maintain pressure on installation tool to fully depress latchbolt.

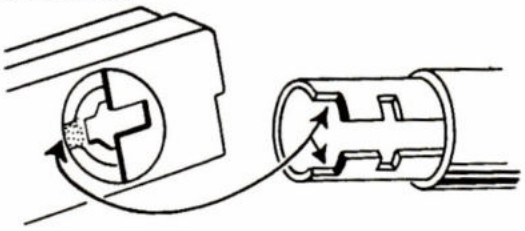
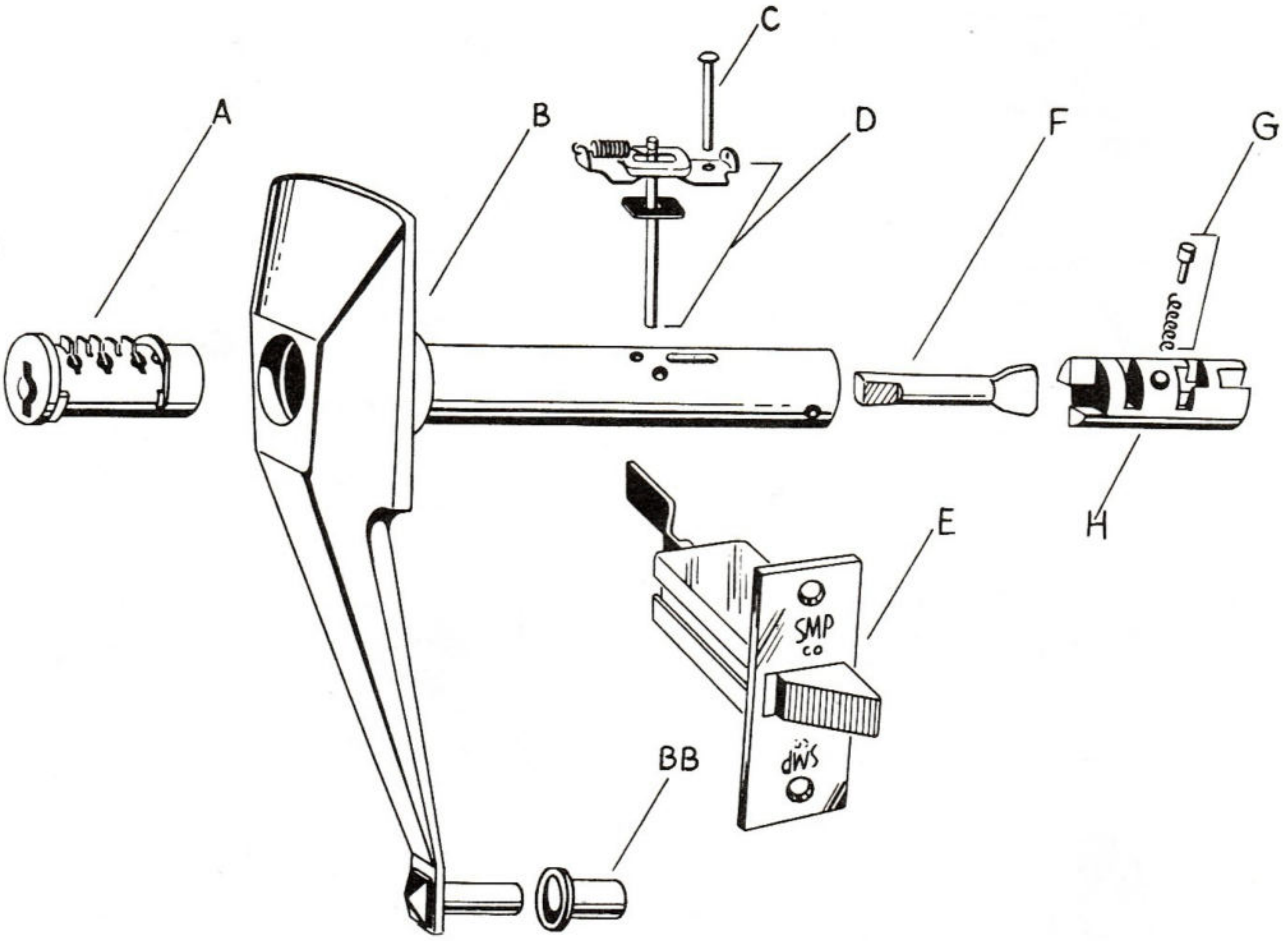


Figure 5

The knobs turn only one-quarter rotation. This is governed by a small lug inside the latch mechanism (shaded area in Figure 5). The ends of the knobs are notched so that the knob rotation is stopped when the end of the notch contacts the lug.

When installing button locksets, insert the inside knob first with the plunger bar in the horizontal position.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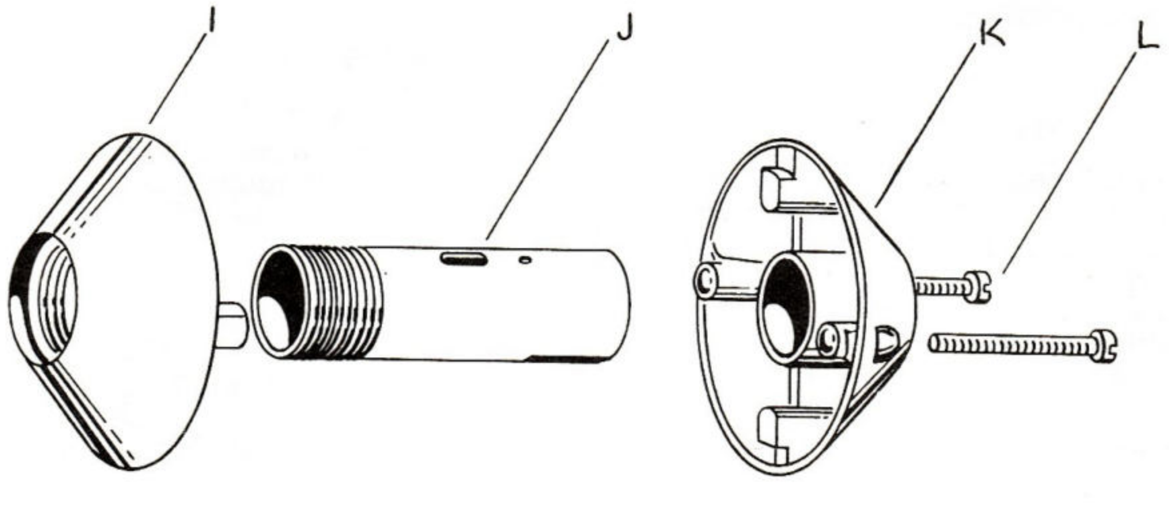

I
J
K
L

EXPLODED LOCK VIEW

SMP "TOUCH-CONTROL LOKSET" No. A104

Manufactured by Screw Machine Products Co. Portland, Oregon

A—Plug (Disc Tumbler)

B—Outside Push Handle

BB—Outside Push Handle Bearing

C—Push Bar Retainer Pin

D—Push Bar Assembly

E—Latch Bolt

F—Plug Tailpiece

G—Spindle Retainer and Spring

H—Locking Spindle

I—Outside Rose

J—Sleeve

K—Inside Rose

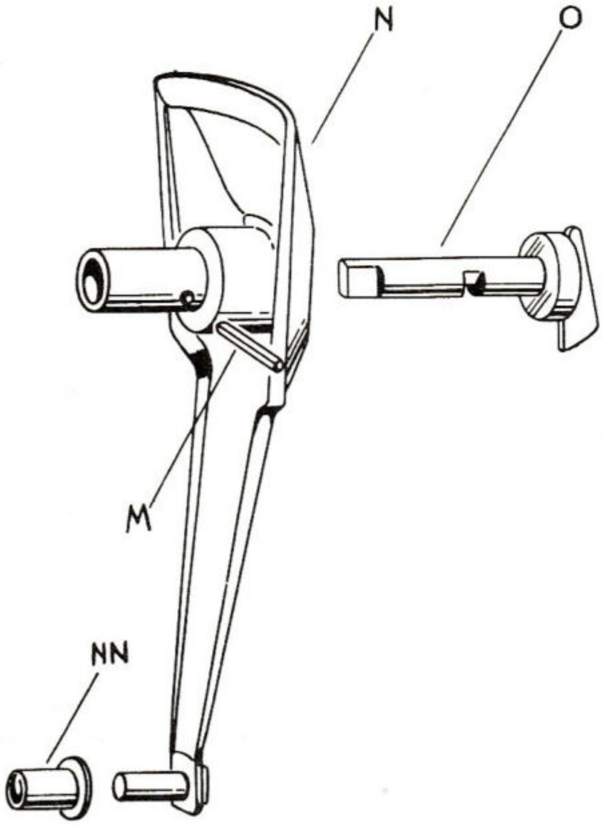
L—Mounting Screws

M—Inside Handle Retaining Pin (Also holds Inside Turn Lever)

N—Inside Handle

NN—Inside Handle Bearing

O—Turn Lever



SERVICE NOTES

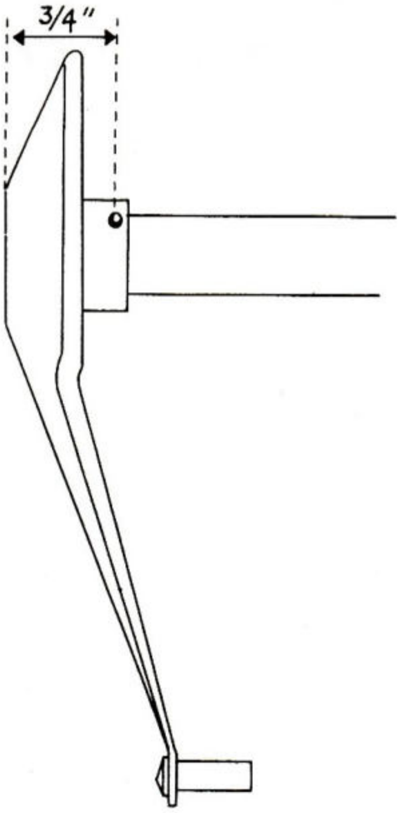


Figure 1

To remove plug from outside handle, drill small hole ¾" back from face of handle (See Figure 1). Then, depress retainer with pick and pull out plug.

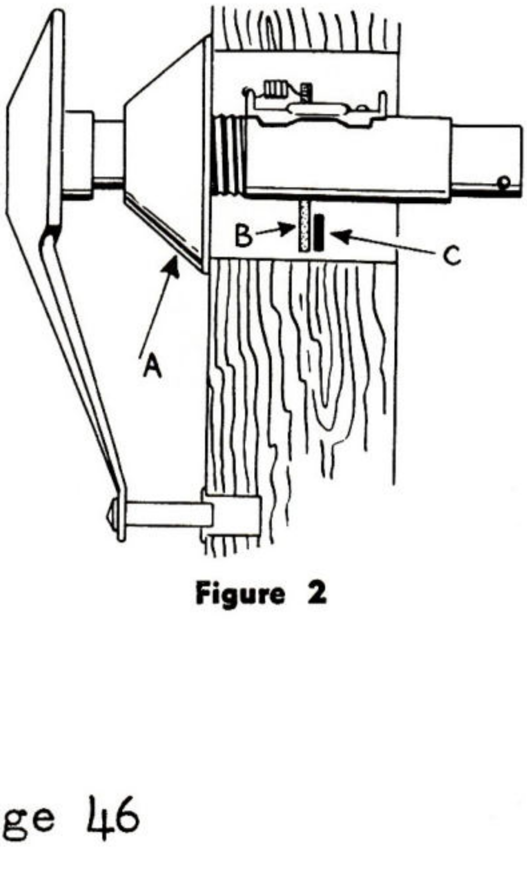


Figure 2

Figure 2 shows a cut-away view of an installation of this lockset. The outside rose "A" is anchored to the door so that the outside handle travels in and out through the rose and the sleeve. As the handle is pushed in, the push bar "B" pushes against the latch arm "C". The pushing action, shown in Figure 3, actuates the latch arm, which in turn, frees the latchbolt. The latch arm does *not* retract the bolt. The bolt is of a new design —it does not retract into the latch in the conventional manner, it swivels into the case instead.

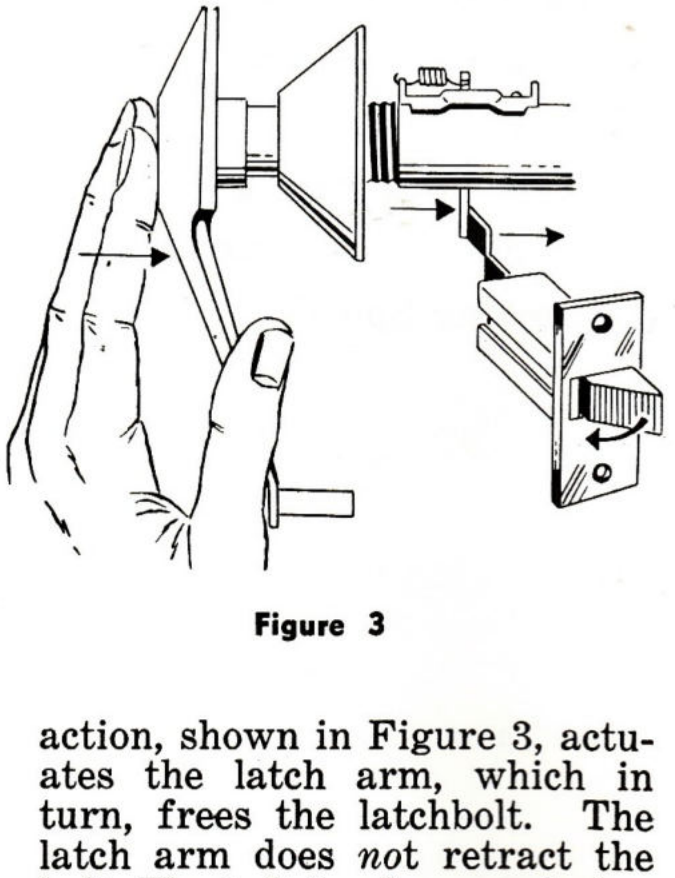


Figure 3

Thus, when the latch arm is moved by the actuating pin, the inner end of the arm moves away from the bolt, permitting

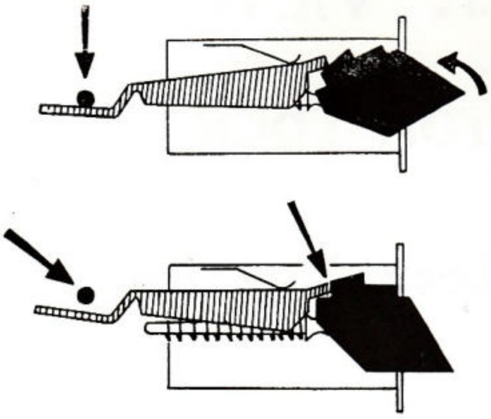


Figure 4

it to swivel. Movements of the latch arm are shown in Figure 4. Door opening results from the inward push pressure applied to the handle. This pressure not only releases the bolt, but also forces the door inward, causing the bolt to contact the strike. Being free, the bolt then swivels into the latch case as the push pressure is continued and opens the door.

The locking and unlocking action consists of moving the locking spindle across the path of the actuating pin, preventing the outside handle from being pushed in or permitting it to be pushed in. (See Figure 5). The plug, tailpiece and locking spindle are contained in the metal tube which is part of the outside handle.

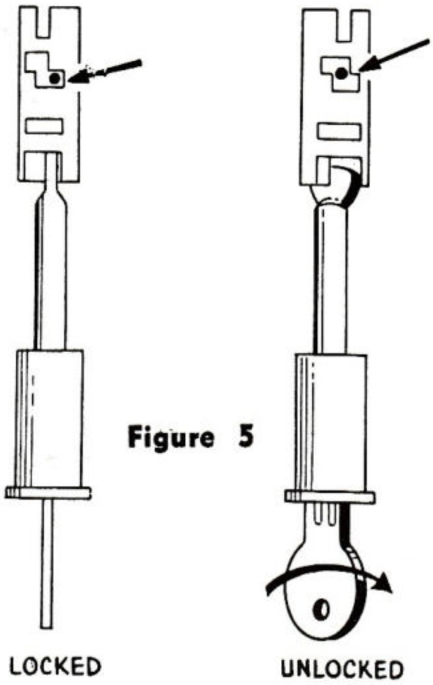


Figure 5

EXPLODED LOCK VIEW

SIMPLEX PUSH BUTTON LOCK

Manufactured By Simplex Lock Corporation

A—Operating Lever

B—Face Plate

C—Push Buttons

D—Housing Front Plate

E—Spring

F—Combination Change Plate Reset Cam

G—Combination Change Plate

H—Bearing

I—Push Button Levers

J—Push Button Springs

K—Guide Plate

L—Housing Side Plates

M—Housing Attaching Screws

N—Spring

O—Spring

P—Operating Spindle Assembly

Q—Housing Support Plate

R—Coding Shaft Position Selector

S—Impulse Gear Activator Assembly
(Rotates combination wheels to opening position)

T—Springs for impulse gear activators

U—Base Plate

V—Impulse Gear Assembly

W—Spring

X—Combination Scramble Gear Assembly

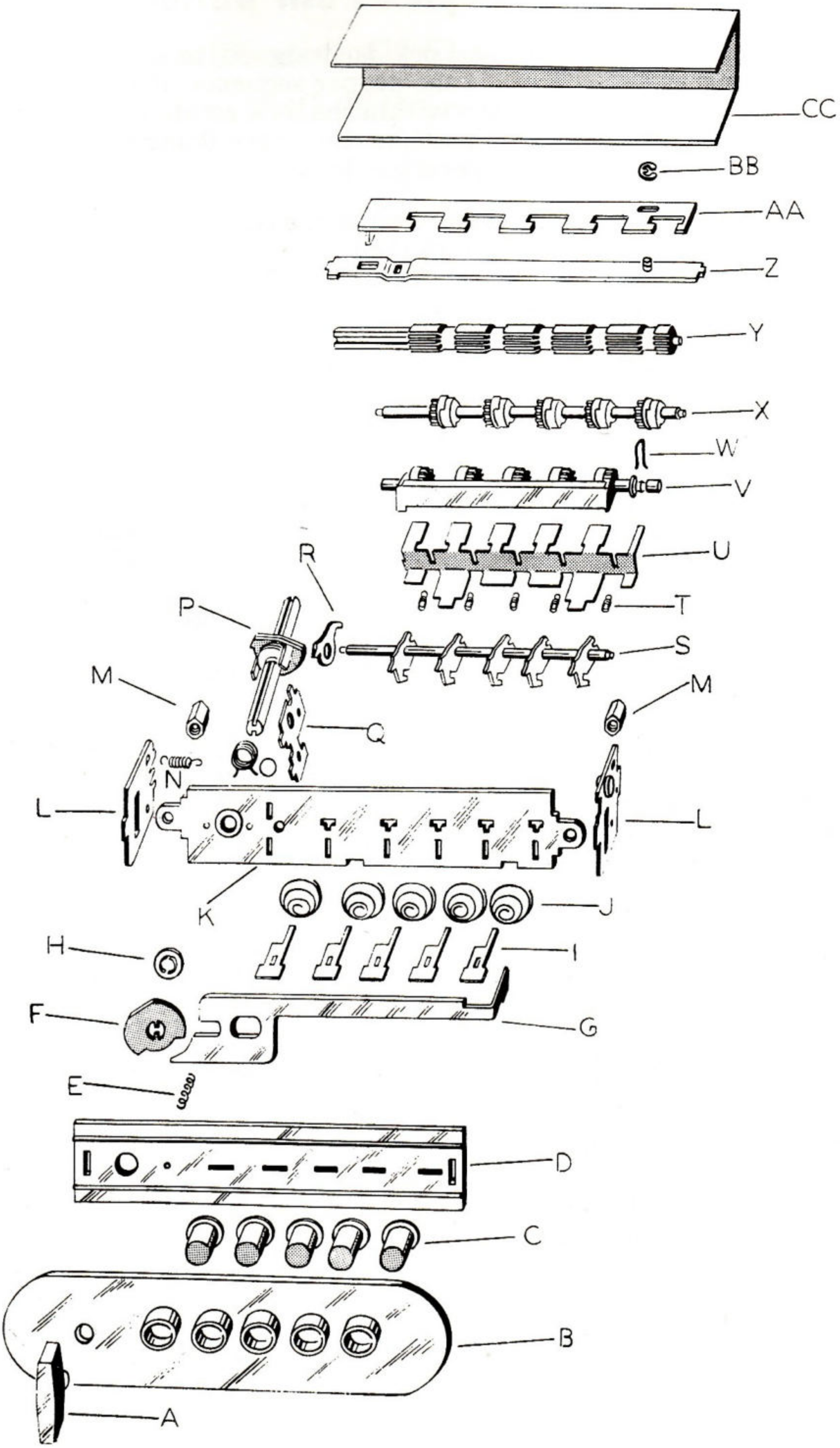
Y—Coding Shaft

Z—Housing Support Bar

AA—Locking Plate

BB—Locking Plate Retainer

CC—Housing Cover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Service Notes On Simplex Push Button Lock

The Simplex Push Button Lock is designed to operate with a series of five push buttons. As the proper sequence of the buttons is depressed, combination wheels within the lock rotate to bring the gate in each wheel into opening position, thus permitting the locking plate to be retracted by the operating lever.

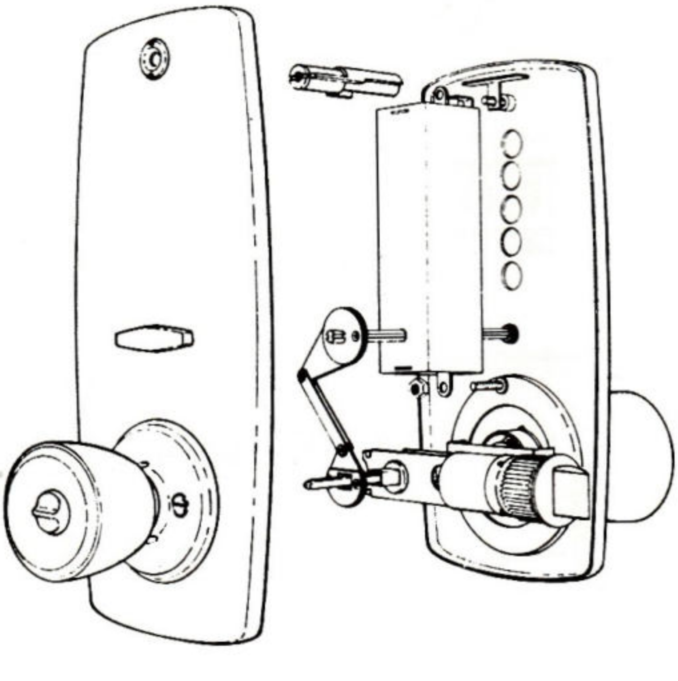
Once a number sequence is selected as the combination, opening of the lock can be only accomplished when the same number sequence is depressed. For example, with the five buttons in the lock, a combination may be selected as 42135. To open the lock, this means that the No. 4 button is depressed first, No. 2 button second, No. 1 button third, No. 3 button fourth and No. 5 button last.

The lock is constructed so that *all* of the gates in the wheels line up at the opening position *when the last number is depressed.* Thus, as each button is depressed, its wheel does not move instantly to the opening position but rotates one notch closer to opening as each following button is depressed. When the last number is depressed, all of the gates line up.

To operate the lock, the lever is first turned counter-clockwise. Then, the number sequence is depressed and the lever turned clockwise to open. Once the lock is opened, continued rotation of the lever scrambles the wheels so that the lock is automatically locked.

The Simplex Lock is part of the "Combo-Lock", which uses a standard lockset with the adaptations shown in the accompanying sketch for the push button operation. Keys may be used with the Combo-Lock if desired. The Combo-Lock is available with 2⅜", 2¾" or 5" backset, and with or without deadlocking latch.

The combination of the Combo-Lock can be changed without disassembly, as follows: Turn lever counter-clockwise. Depress buttons for present combination. Rotate bushing at top of inside plate clockwise until it stops and then counter-clockwise to original position using spanner key provided with lock. Turn lever counter-clockwise. Depress buttons for new combination. Turn knob clockwise, which will open lock and set in new combination.



Determining Unknown Combination Of Simplex Push-Button Lock

Determining the combination of the Simplex Lock when the combination is not known requires an understanding of the rotation of the wheels as the buttons are depressed. The lock is constructed so that the wheels do NOT instantly line up as the matching buttons are depressed.

The wheels, however, rotate one notch closer to the opening position as each succeeding button is depressed.

To illustrate this operation, assume that the opening combination is 1-2-3-4-5. This means the No. 1 button is depressed first, the No. 2 button second, the No. 3 button third, No. 4 button fourth and No. 5 button last. As the No. 5 button is depressed, *all* of the wheels line up their gates at the opening position to receive the lever.

To illustrate this function step-by-step, go back to the depressing of the No. 1 button. As the No. 1 button is depressed, its wheel moves only one notch (or click). None of the remaining four (undepressed) wheels move. As the No. 2 button is depressed, the No. 2 wheel will move one notch and it also will cause the No. 1 wheel to move one notch. As the No. 3 button is depressed, the No. 3 wheel will move one notch and it will cause both the No. 1 and No. 2 wheel to also move one notch.

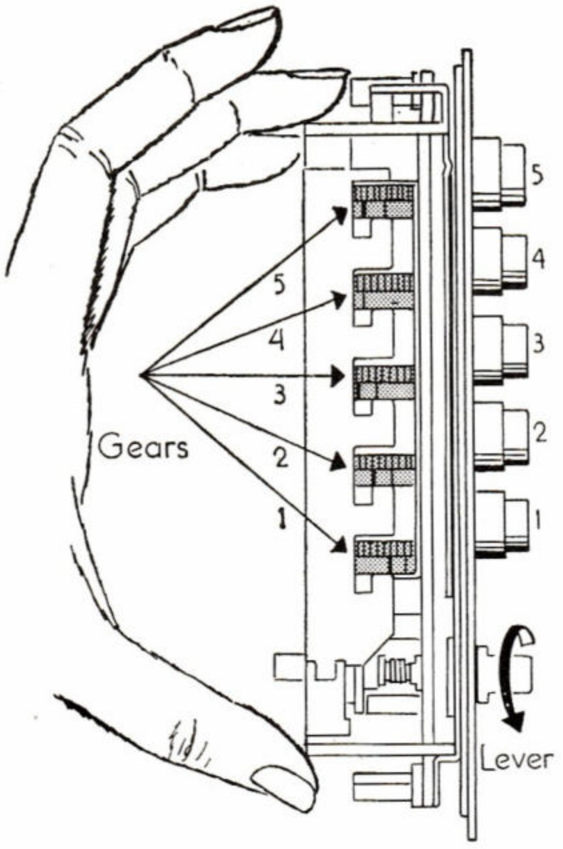
As the No. 4 button is depressed, the No. 4 wheel will move one notch and it will cause all three previously depressed wheels — No. 1, 2 and 3 — to move one notch also. Finally, as the No. 5 button is depressed, all of the wheels will move and the gates will line up at opening.

This action can be summed up as follows: When any given button is depressed, it will move its corresponding wheel one notch and will cause the wheel of any other previously depressed button to also move one notch. This is true regardless of what the sequence of numbers are in the combination.

Because of this, the combination of any given wheel is determined by the number of notches it must move to line up its gate. For example, the No. 1 wheel given above rotates five notches — once as its own button is depressed and four times when the remaining four buttons are depressed. Thus, the combination of the No. 1 wheel is 5.

The No. 2 wheel above, since it was depressed second in the number sequence, rotated four times and its combination is 4. The No. 5 wheel above, having been depressed last and having moved only one notch to opening, has a combination of 1.

With these facts in mind, the combination of a Simplex Push Button Lock, on which the combination is unknown, can be determined. Since the Lock will be on the interior of the unit being



For determining combination of wheels hold lock in the above fashion with lever at the bottom and push buttons identified as numbered above.

locked, entry must be made by a means other than through the lock. Once open, the case cover can be removed to expose the view shown in the above illustration. If possible, hold the lock in this fashion.

The procedure for determining the combination of each number is as follows: Turn the lever counter-clockwise; then depress a given button and any other *following* buttons a sufficient number of times to bring the gate to opening position. The number of times that a button must be depressed (remember, each time a button is depressed, the wheels of the depressed buttons will move one notch) to line up a gate is the combination of a wheel.

To illustrate this, start with the No. 1 button. If this is depressed, the No. 1 wheel moves one notch but the gate is not lined up. Then, the No. 2 button is depressed, causing both the No. 1 and 2 wheel to move one notch. However, the gate of the No. 1 wheel still does not line up. Therefore, the No. 3 button is depressed, causing the No. 1, 2 and 3 wheel to rotate. But the gate in the No. 1 wheel is still not at opening.

Then, the No. 4 button is depressed, causing the No. 1, 2, 3 and 4 wheels to move. If the gate of the No. 1 wheel still does not line up (remember, we are trying to find out the combination of the No. 1 wheel at this time — if any other gates line up during this process, disregard them), it will be necessary to depress the No. 5 button, at which the gate should line up.

Since the No. 1 wheel had to rotate five notches, requiring five depressions of the buttons, the combination of the No. 1 wheel is 5. This number then is written down on a slip of paper.

To determine the combination of the No. 2 button, the same process is repeated, turning the lever counter-clockwise before starting. However, this fact must be remembered — always start with the button whose combination is being determined and continue depressing the buttons in order. If the No. 2 combination is being determined, depress the No. 2 button first. If additional rotations of the No. 2 wheel are needed, depress the buttons in consecutive order, such as 3, 4, 5 and back to 1, if necessary.

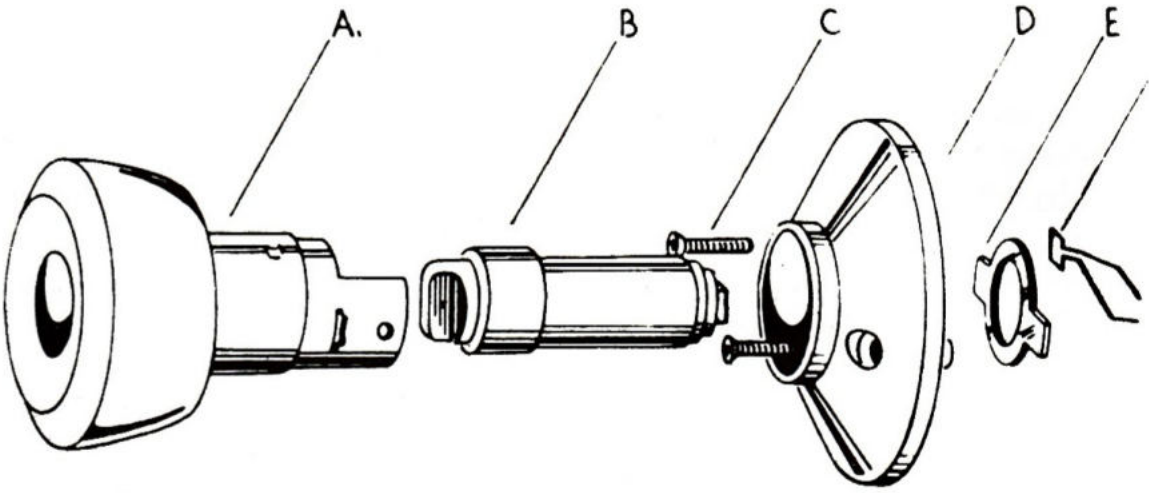
When a No. 3 wheel is being determined, depress first the No.

3 button then the No. 4, 5, 1 and 2, as needed to line up the gate of the No. 3 wheel. The same procedure is used for the No. 4 and 5 wheels, starting always by depressing the corresponding button first.

Assume that a combination is not known. By following the above steps, we determine that it takes 4 depressions to line up the No. 1 wheel. This number (4) is written on a slip of paper. For the No. 2 wheel, we find one depression lines up the wheel. Thus, a (1) is written above the first number 4. For the No. 3 wheel, the combination number is 2 (two depressions of the buttons line up its gate) ; thus (2) is written above No. 1. For the No. 4 and No. 5 wheels, the combinations are (5) and (3). Both of these numbers are written above the previous numbers to give a column like this:

3 .... No. 5 button
5 .... No. 4 button
2 .... No. 3 button
1 .... No. 2 button
4 .... No. 1 button

Now it is a simple matter of checking out the numbers. The button with the highest combination is first in the combination sequence. Second highest is second, etc. Thus, since 5 is the highest combination above, the No. 4 button is depressed first. Since 4 is the next highest, the No. 1 button is second. Carrying the above figures completely out, the combination is 4-1-5-3-2.



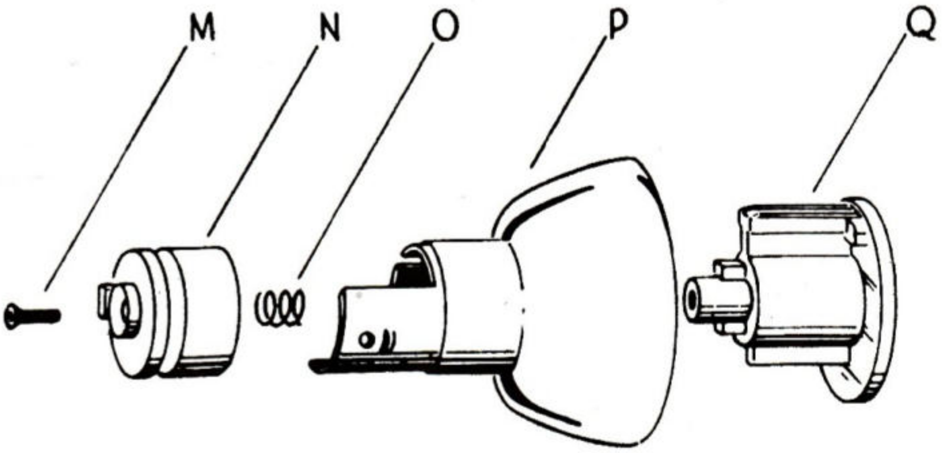
EXPLODED LOCK VIEW

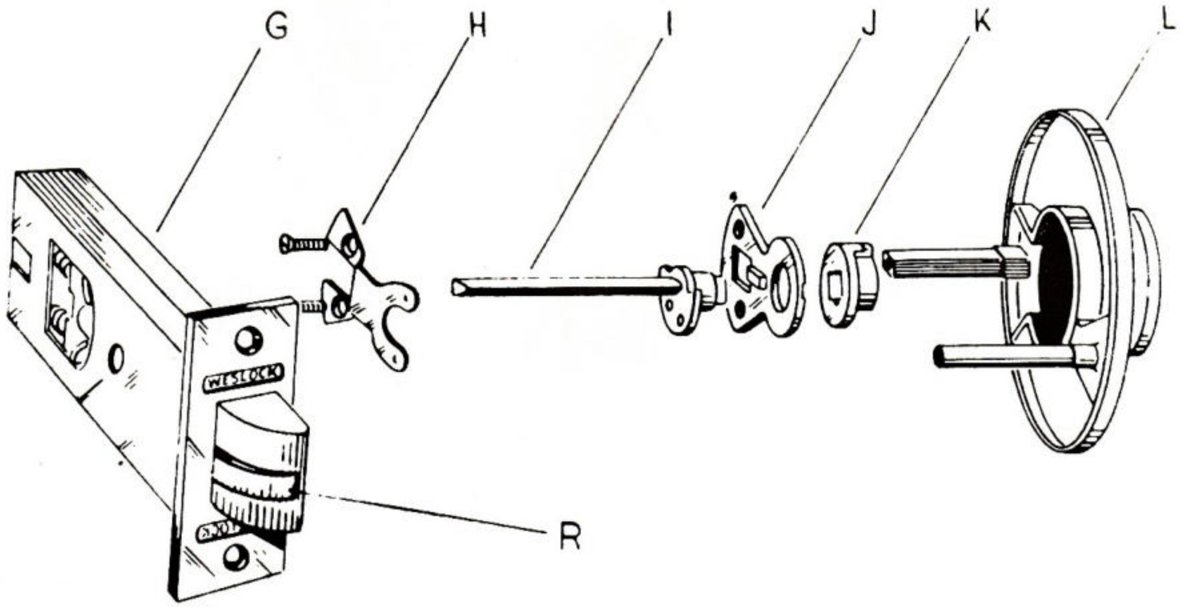
T-30 KEYLOCK FOR MOBILE HOMES

manufactured by

WESLOCK COMPANY
Huntington Park, California

A—Inside Knob
B—Turn Button
C—Screws
D—Inside Rose
E—Spindle Retainer
F—Turn Button Travel Stop
G—Latch
H—Locking Shaft Spring and Screws
I—Locking Shaft
J—Locking Shaft Stop Plate
K—Locking Shaft Cam
L—Outside Rose
M—Cylinder Tailpiece Screw
N—Cylinder Tailpiece
O—Spring
P—Outside Knob
Q—Cylinder Housing
R—Dead Bolt Release





SERVICE NOTES

Before the cylinder "Q" can be removed from the outside knob "P" for rekeying, both the inside and outside knob assemblies must be removed from the door. The outside knob cannot be separated from its rose unless its spindle is disengaged from the latchbolt "G" and this disengagement can be effected only by removing the entire outside knob assembly from the door.

To remove both knob assemblies, remove the screws "C" which anchor the assemblies to the door and pull the knobs off. It is not necessary to remove the latchbolt. Note that one of the anchoring rods has a square shape, the other a round shape, to assure correct installation.

To remove the outside knob "P" (with cylinder intact) from the rose, turn the knob assembly so that its inner side is facing you. Then, rotate the knob to bring the lug on the spindle within the triangular recess (arrow in Figure 1). Note that the square anchoring rod is positioned in this recess. Next, pull the knob out slightly and apply a downward pressure to separate the knob from the rose (Figure 2).

To remove the cylinder from the knob, remove screw "M". NOTE! There is no other retainer but this screw to hold the plug in the housing. When using the key as explained later, be sure to place your finger on the face of the plug to prevent pulling out the plug and losing the pins.

Insert the key and turn the plug until the tailpiece "N" rotates to line up its recess with the inner lug in the spindle (See arrow, Figure 3). Tap the knob spindle on the work bench and the tailpiece will fall out. Continue to apply pressure on the face of the plug to rotate the plug back and to remove the key. Then, insert a screwdriver into the knob and push the cylinder out. Because of the design of this lock, the cylinder cannot be removed when the lockset is installed.

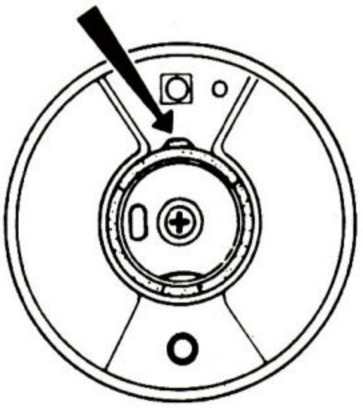


Figure 1

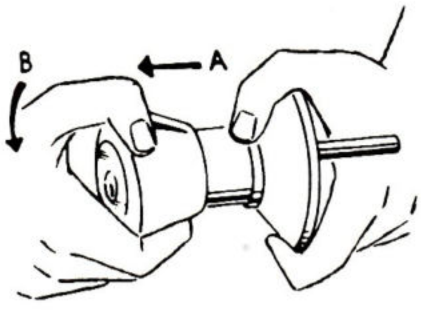


Figure 2

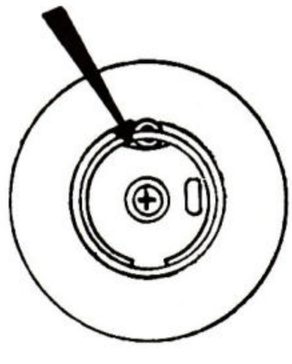
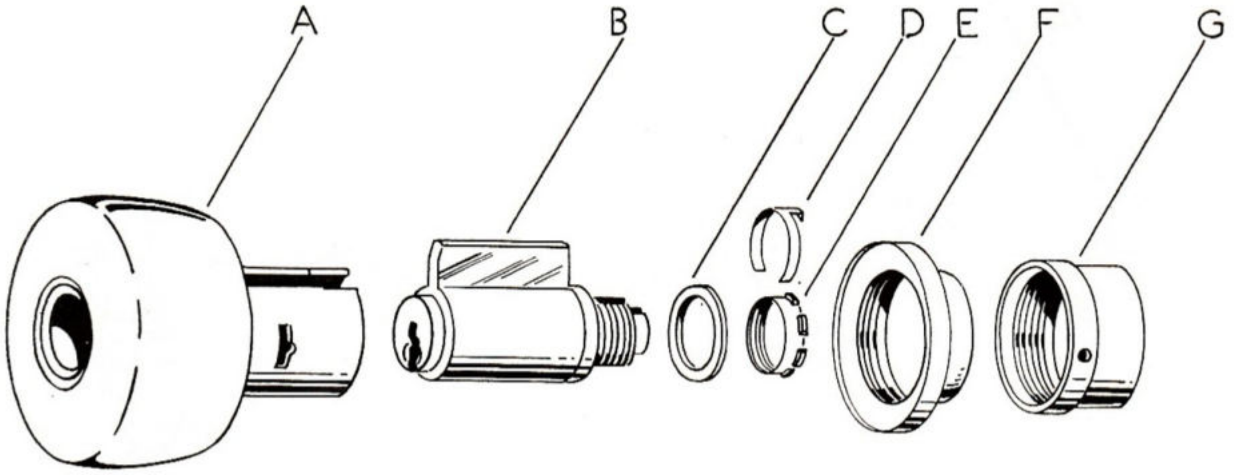


Figure 3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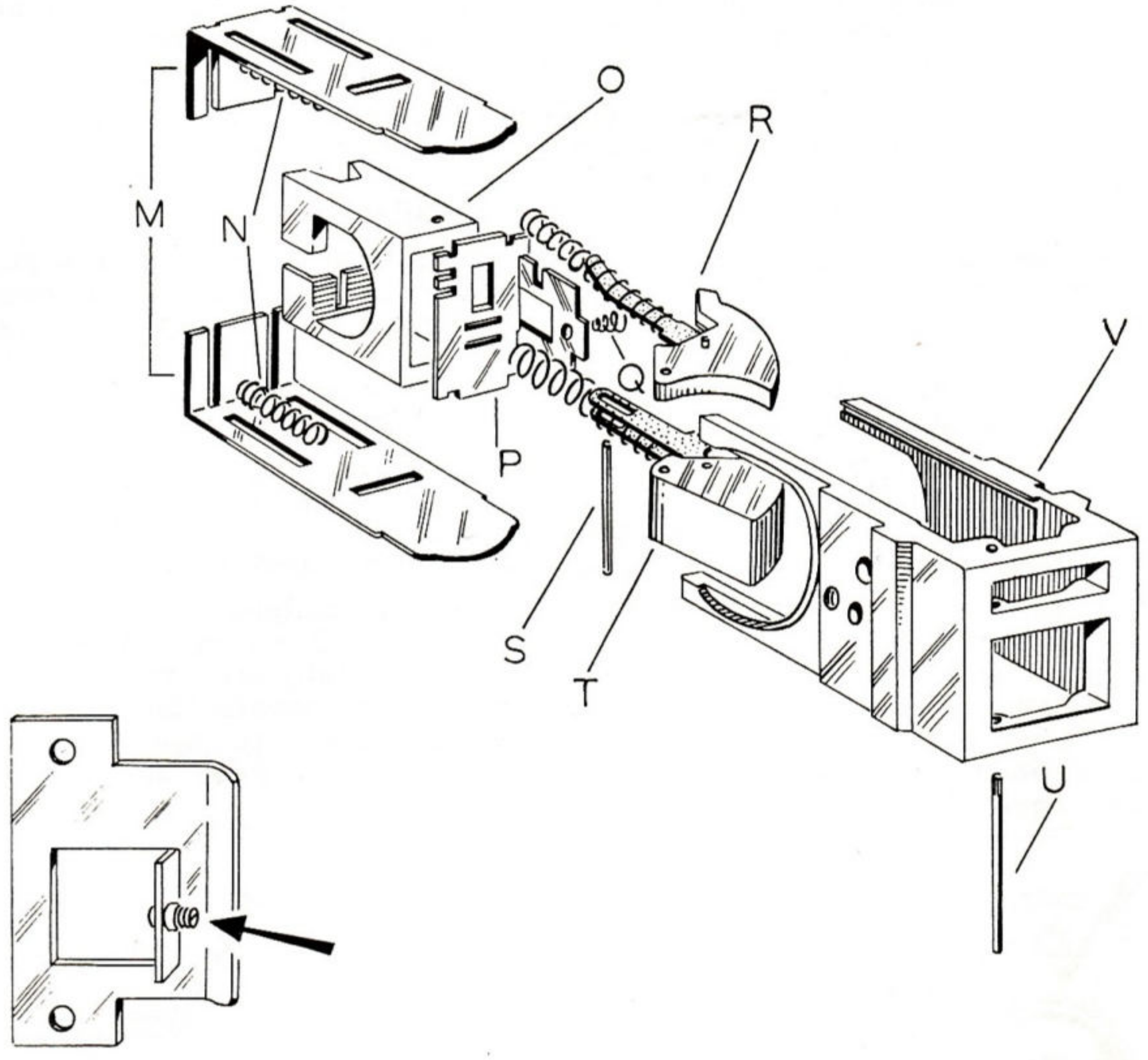
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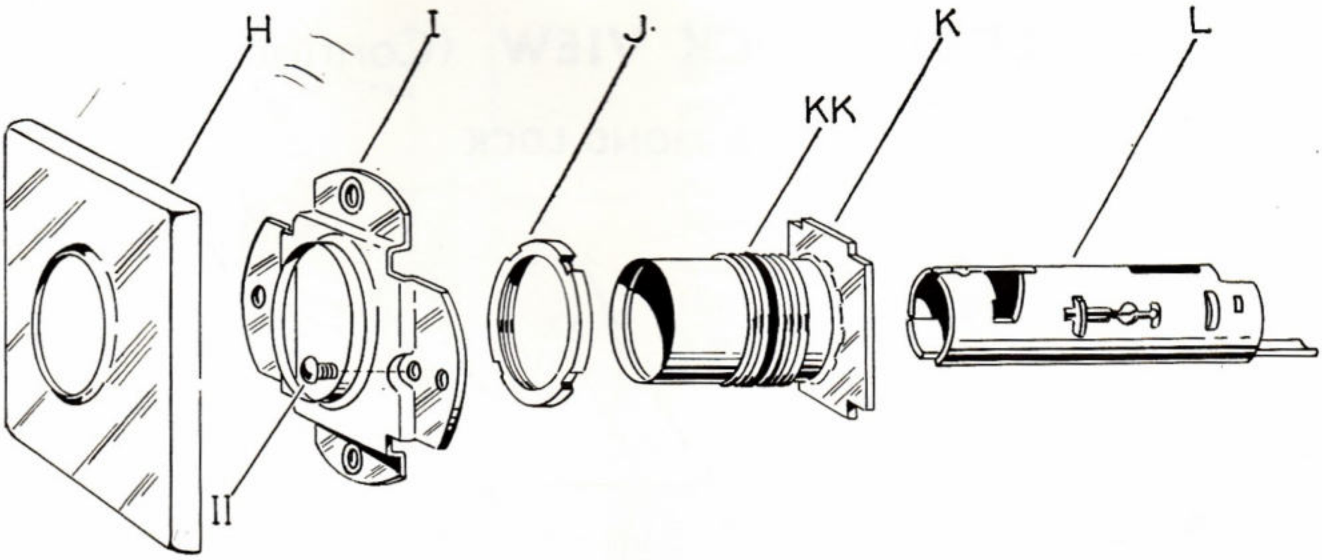


EXPLODED LOCK VIEW

YALE MONO-LOCK

Series No. 6100 (2-½" backset)
6200 (2-¾" backset)

Manufactured by Yale & Towne Mfg. Co., White Plains, N.Y.

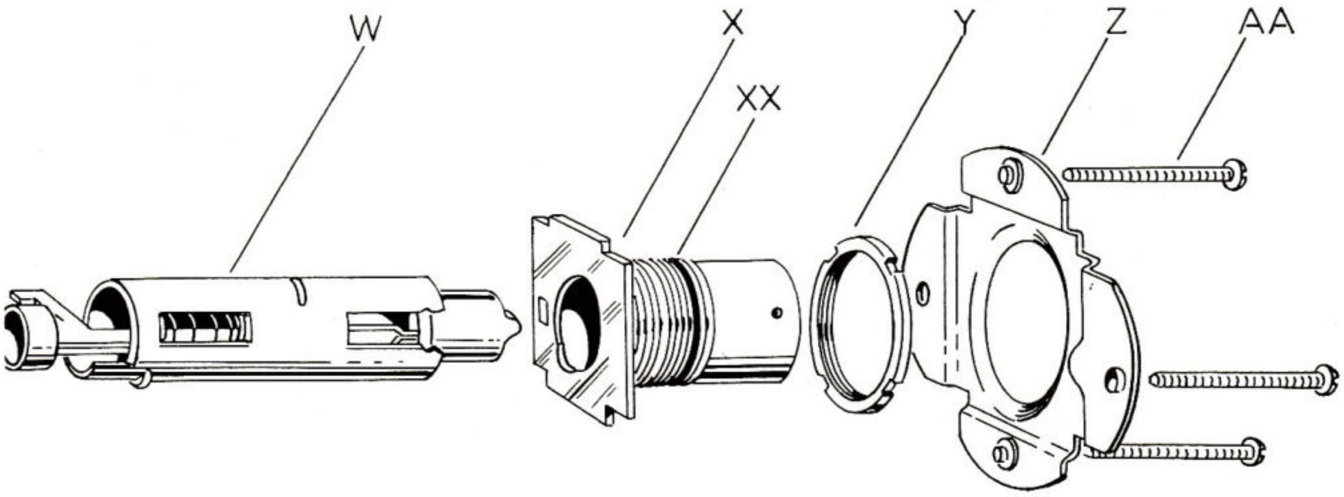
A—Outside Knob
B—Pin Tumbler Cylinder
C—Retainer Bearing
D—Retainer Stop
E—Retainer Nut
F—Outside Knob Cap
G—Outside Rose Nut
H—Outside Rose
I—Attaching Plate
II—Rose Anchor Screw
J—Knob Bearing Retainer
K—Knob Bearing Support
KK—Knob Bearing
L—Tube Spindle
M—Retractor Frame Plate
N—Retractor Spring
O—Retractor
P—Guide Plate
Q—Stabilizer Spring
R—Deadlock
S—Pin
T—Latch Bolt
U—Pivot Pin
V—Lock Frame
W—Push Button Sleeve and Button Ass'y.
X—Knob Bearing Support
XX—Knob Bearing
Y—Knob Bearing Retainer
Z—Attaching Plate
AA—Attaching Screws
BB—Inside Rose
CC—Inside Rose Nut
DD—Inside Knob Cap
EE—Inside Knob

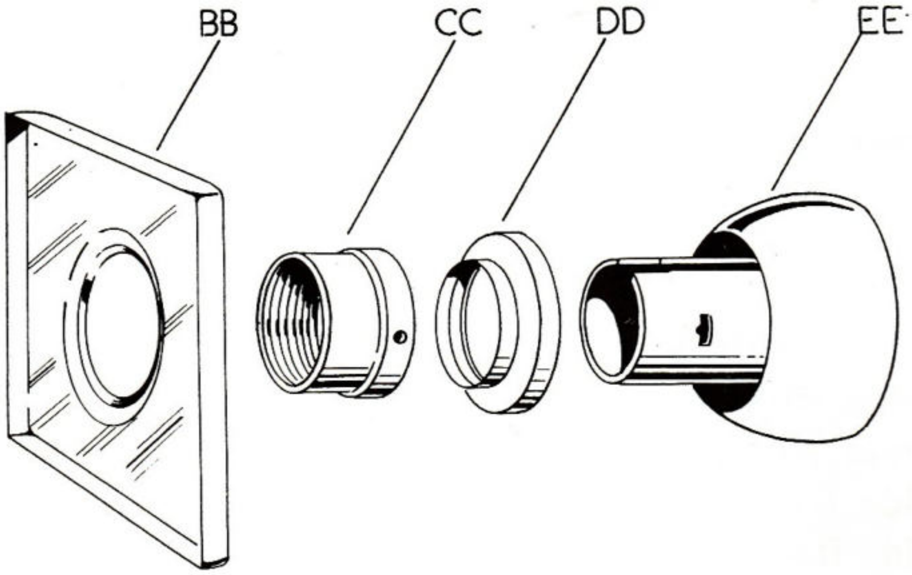
Arrow shows Nylon clearance adjusting screw in strike (Rear view)

(Yale Mono-Lock Exploded View continues on next Page)

EXPLODED LOCK VIEW (Continued)

YALE MONO-LOCK





SERVICE NOTES

The Yale Mono-Lock is supplied in three styles for the various locking functions: style with concealed attaching screws; style with exposed attaching screws; and the style for a reverse bevel. Since the lockset shown here is an entrance lock with concealed attaching screws, this style will be explained fully and the necessary changes for the two remaining styles will be explained as needed.

STYLE WITH CONCEALED ATTACHING SCREWS

The Yale Mono-Lock is designed for installation by notching the door rather than by drilling as with conventional type locksets. The door cutout is made by using the template provided with the lock as a pattern (See Figure 1), after determining the necessary height. The template also indicates the

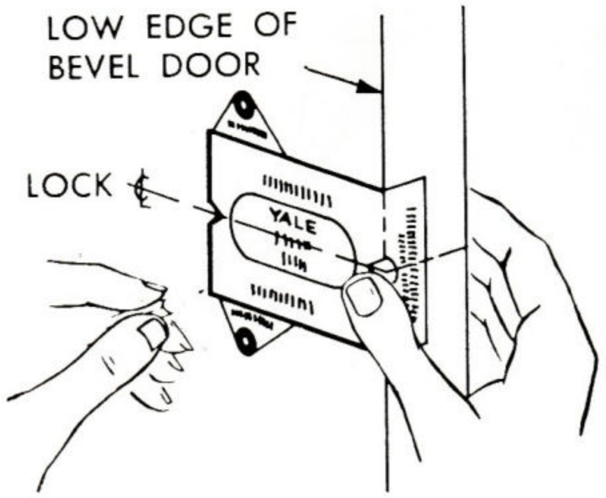


Figure 1

points for drilling two installation screw holes, $\frac{3}{8}''$ in diameter. The cutout for the lock should measure $1\frac{3}{4}''$, Figure 2.

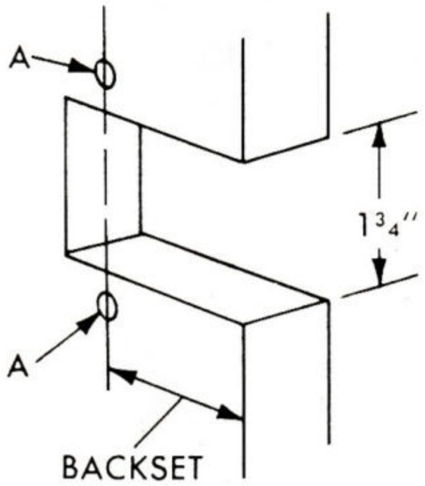


Figure 2

Since the lock is preassembled, the inside trim must be removed in order to perform the installation. First, the inside knob is removed by turning it 45° and depressing the knob retainer with a suitable tool inserted into the hole at " B ", Figure 3. The knob then can be pulled away from the lock body. Next, unscrew the rose nut "C" and remove the rose to expose the attaching plate "D", (See Figure 4).

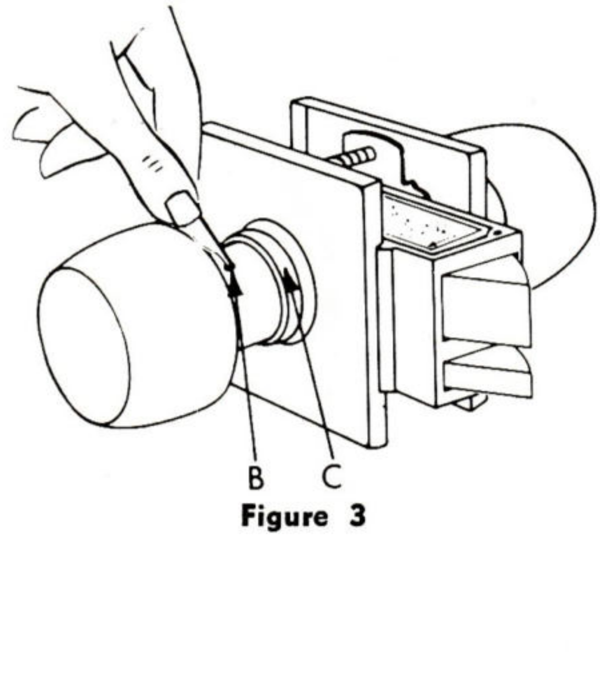


Figure 3

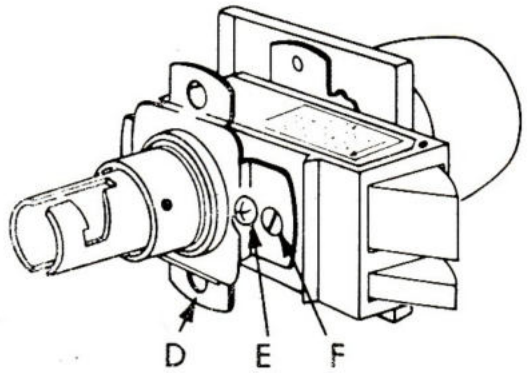


Figure 4

To install the lock to the door, loosen the attaching screw "F" which fastens the plate "D" to the lock body "E". Loosen also the outside rose. While in this loosened state, spread the attaching plate "D" (inner and outer plate) and slide the lock into the cutout so that the front of the lock is flush with the door.

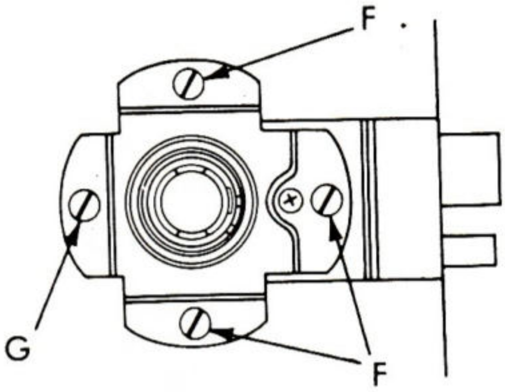


Figure 5

Draw the attaching plates against the door by tightening the three attaching screws "F" in Figure 5. The attaching plate then is anchored to the door by means of the short screw "G", should be on the stop side of the door.

To replace the inside rose, slide it on the lock spindle and rotate on the rose nut on the stop side until the rose plate is tightly seated to the door, (See Figure 6). Then, tighten the opposite rose nut. To replace the knob, line up the retainer in the hole in the knob with the hole in the rose cap and slide the knob on the spindle.

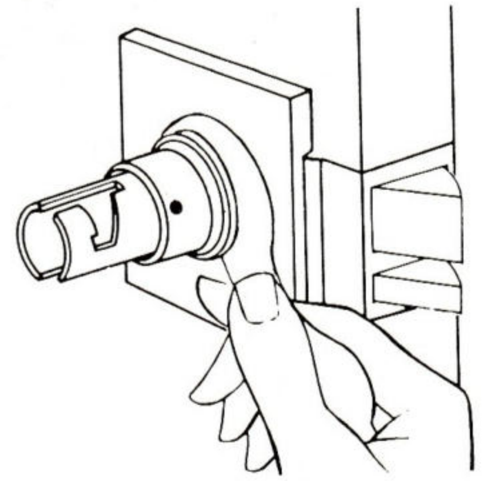


Figure 6

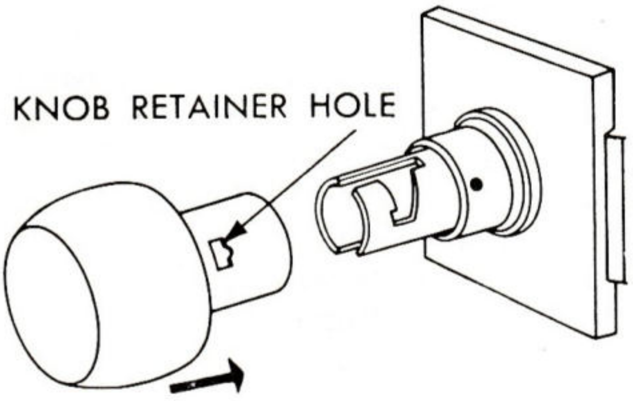


Figure 7

REMOVING CYLINDER KNOBS

To remove the knob, insert the key and rotate the plug 70° clockwise to line the knob retainer with the hole in the rose nut. Depress the retainer and slide the knob off. Pry the knob cap from the knob to permit removal of the pin tumbler cylinder for servicing, which can be done in the normal manner. To replace the knob, slide it on the spindle, turn the key 70° clockwise and push the knob into position.

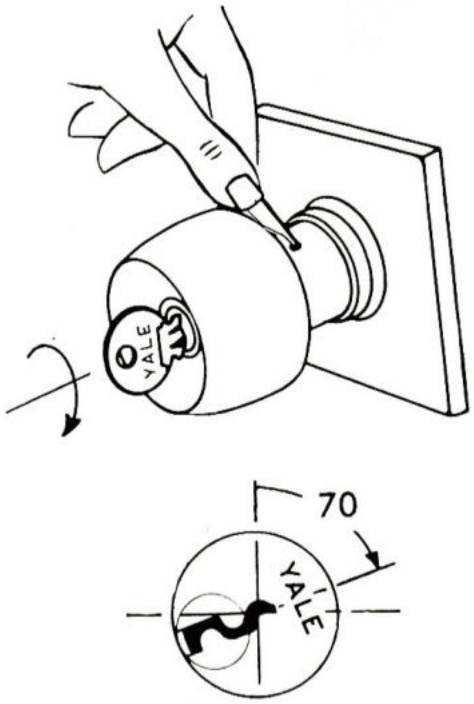


Figure 8

The strike is installed with its rear edge positioned against the doorstop as shown by "H" in Figure 9. If rubber silencers are used, however, the strike should be set 1/16″ from the stop as shown at "J" in Figure

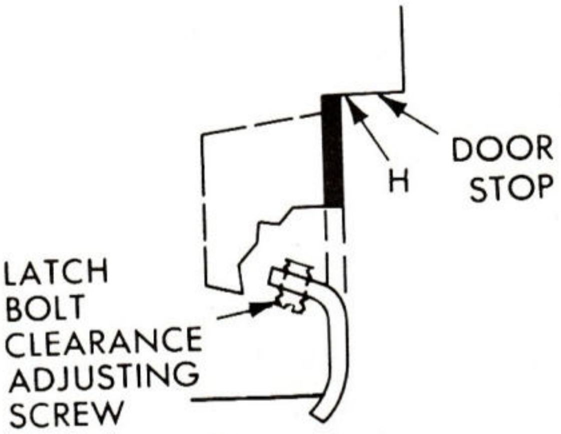


Figure 9

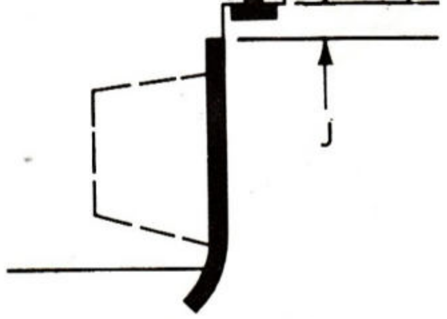


Figure 10

10. The distance should be increased to 1/8" if silencers and a door closer are used. Clearance of the latch bolt is adjustable by turning the screw in the strike.

STYLE WITH EXPOSED ATTACHING SCREWS

To install the Mono-lock style with the exposed attaching screws, loosen the rose nut "B" and attaching screw "C" shown in Figure 11. This will permit the roses to be spread apart slightly. Slide the lock into the cutout, center into position, and tighten the rose nut "B" with the hand. Then, draw the roses tight to the door by tightening the attaching screws "C" Figure 12. When tight, anchor the rose to the door with the short screw "D". Finally, tighten the rose nut with the spanner wrench.

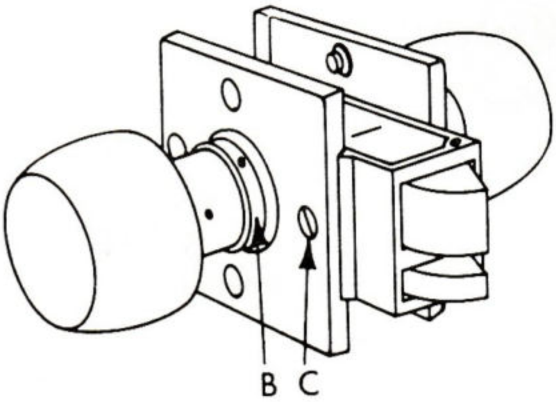


Figure 11

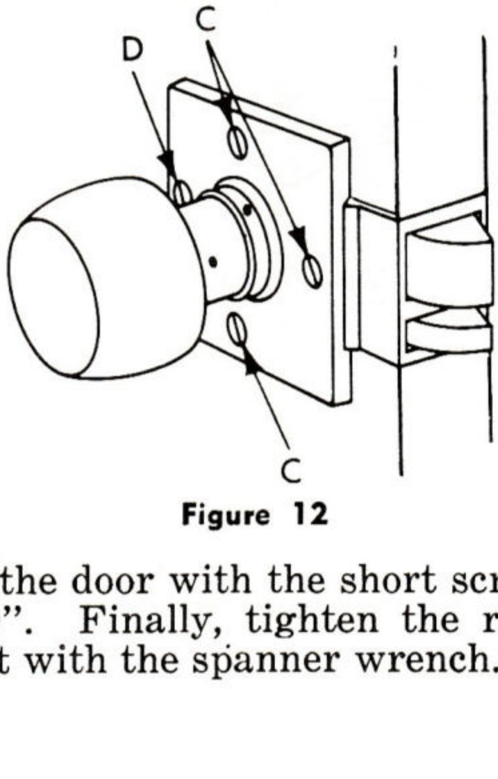


Figure 12

REVERSE BEVEL INSTALLATION

The installation steps for a reverse bevel style Mono-Lock are the same as used for previous styles with an exception of positioning the outer attaching plate. With the knob and rose removed, the opposite rose nut should be loosened and the through screw shown in Figure 13 removed. Then, the correct lug on the opposite attaching plate (arrow) is pressed into the mating frame hole as shown in Figure 14. The through screw then can be replaced.

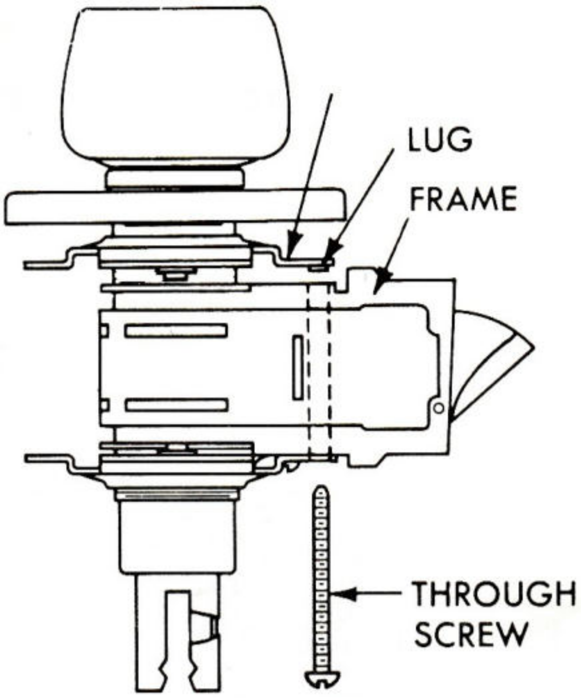


Figure 13

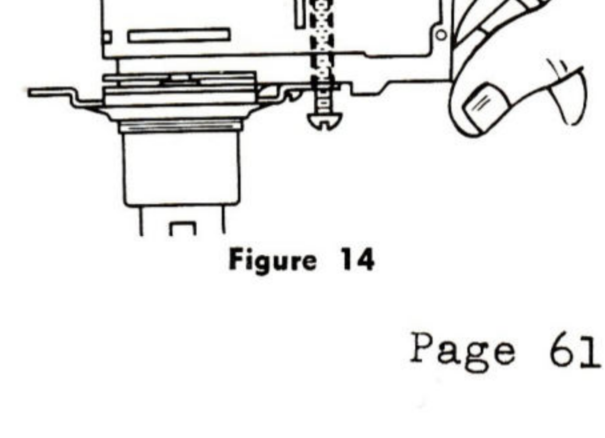
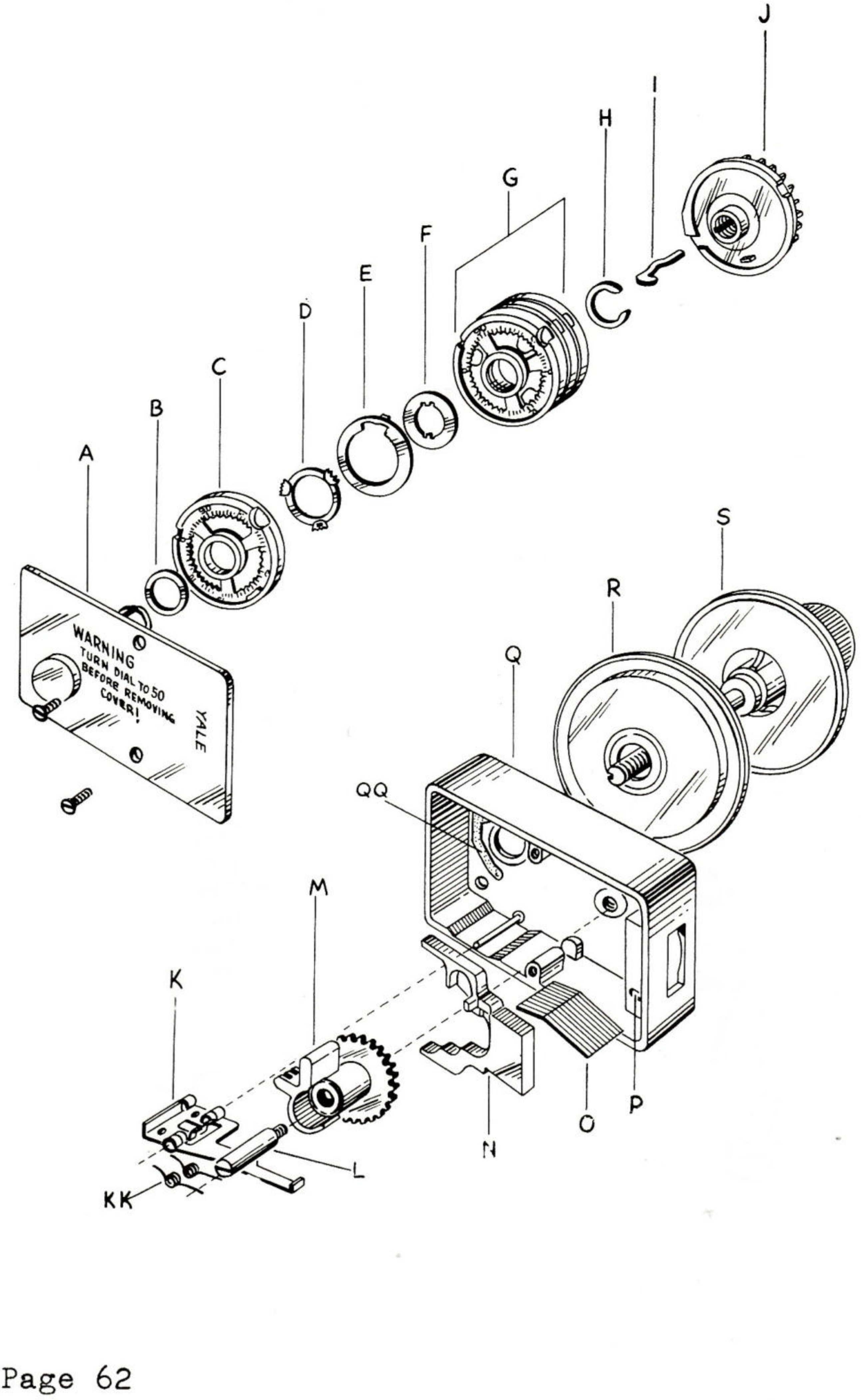


Figure 14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BEFORE REMOVING
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EXPLODED VIEW

YALE ANTI - MANIPULATION
COMBINATION LOCK (B30 Series)
Mfg'd. by Yale & Towne Mfg. Co.
White Plains, New York

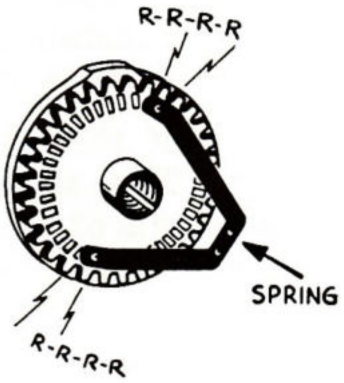
NOMENCLATURE

A. Rear Cover
B. Spacer Washer
C. Nylon Wheel Tumbler (3rd)
D. Combination Disc
E. Fly
F. Spacer Washer
G. Second and First Tumblers (This illustration shows a four wheel lock. The three wheel model has a spacer to fill the space of the 4th wheel tumbler.)
H. Retainer Clip
I. Spindle Key
J. Drive Wheel
K. Anti-Manipulation Device
KK. Springs
L. Fence Pivot
M. Serrated Fence (Automatic Tumbler Disperser)
N. Bolt
O. Friction Holder for Bolt
P. Relocking Device
Q. Lock Case
QQ. Baffle Spring
R. Ring
S. Dial

EXPLANATION

The new Yale Anti-Manipulation lock contains a number of novel features of unusual technical interest.

1. The built-in sound baffle to prevent detection of gateways causes a grating noise as the drive wheel is turned. A two-pronged spring pressing against a series of depressions acts as the noise maker.

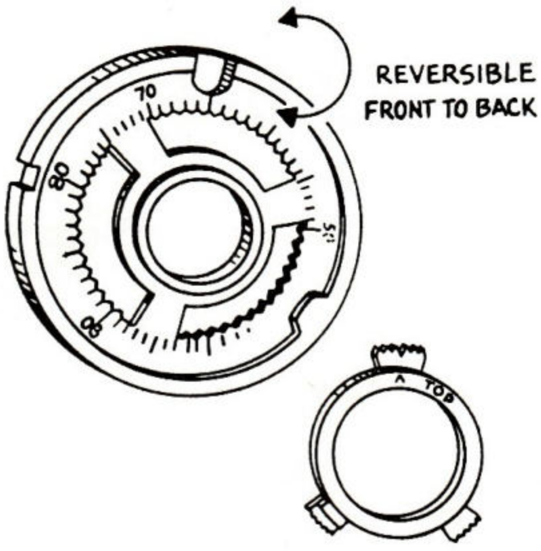


2. Each nylon wheel tumbler is comprised of three pieces:

a. A numbered wheel
b. A hand-change center disc
c. A brass fly

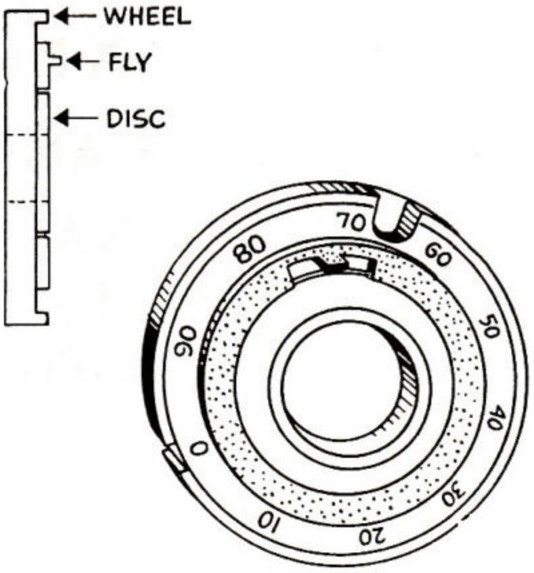
The combination is changed by lifting out the center disc, rotating it to another number and reinstalling it. An arrow and the word "Top" indicates the correct position for installation.

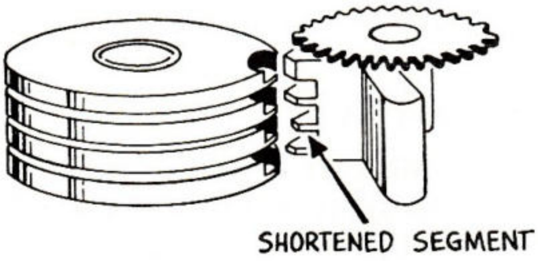
Note that the center disc nests within the numbered wheel. The wheel, which revolves directly on the post, is reversible.



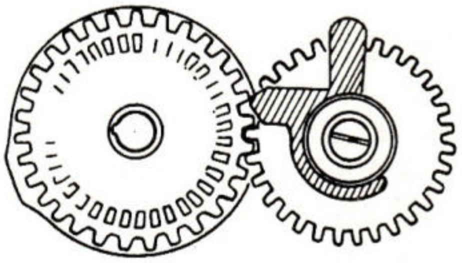
The fly also nests in the wheel and rotates between the rim of the center disc and the inside rim of the wheel. It straddles one spoke of the center disc. When correctly installed, the fly lies flat within the wheel.

The gateway of the wheel is a semi-cutout. The slotted or "serrated" segments of the fence fit into the gateways. One of the segments is shortened to give automatic dispersement with partial turn of dial when locking.

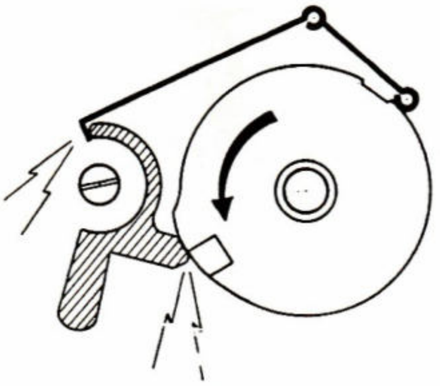




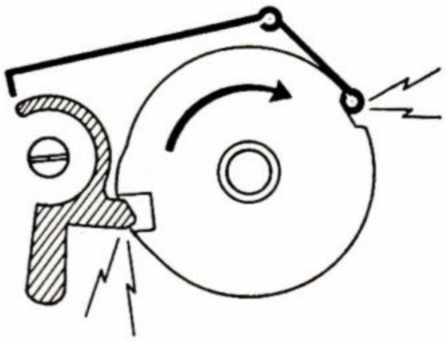
3. The drive wheel is geared. It meshes into an idler gear under the fence. The idler gear is friction-controlled so that there is slight drag on the fence. Thus, when the drive wheel is on opening number and the direction of turn is reversed to retract the bolt, the idler gear acts as a drag clutch against the fence and rotates it into the gateway of the drive wheel.

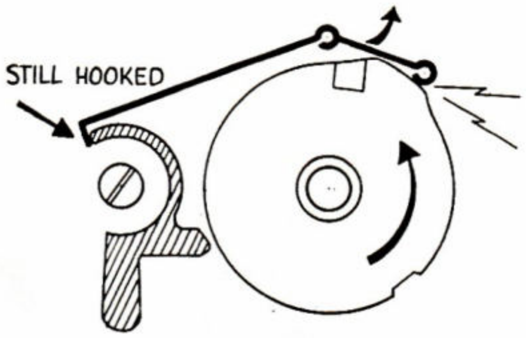


4. The " bump " on the drive wheel rotates the fence into position to receive the long hook of the "secondary fence".

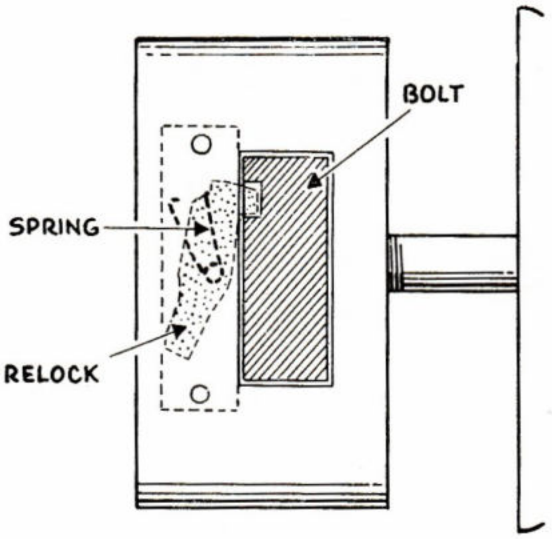


5. When the drive wheel and tumblers are in open position, the shallow notches are in alignment with the short hook of the anti-manipulation device. This permits both arms to pivot and thus releases the hook from the fence.



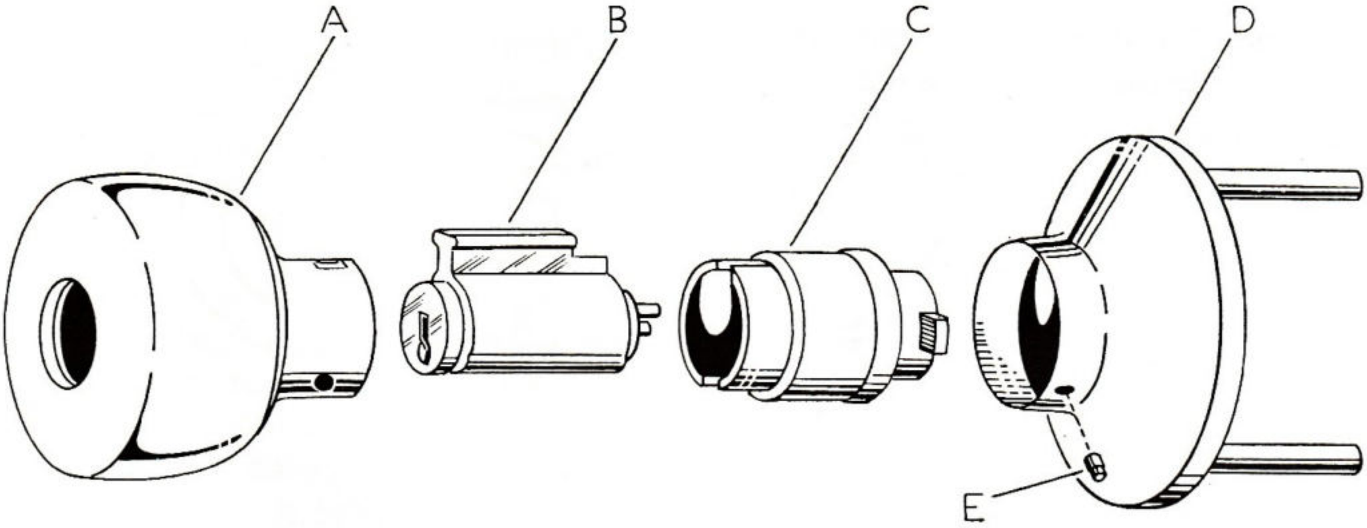


6. The purpose of the hinged construction of the hooks is to provide for passage of the bump on the wheel without disturbing the secondary fence or hook.



SIDE VIEW

7. The relocking action takes place if the cover is removed or punched off. A hook immediately pivots into a slot in the bolt and thus holds it in locked position.



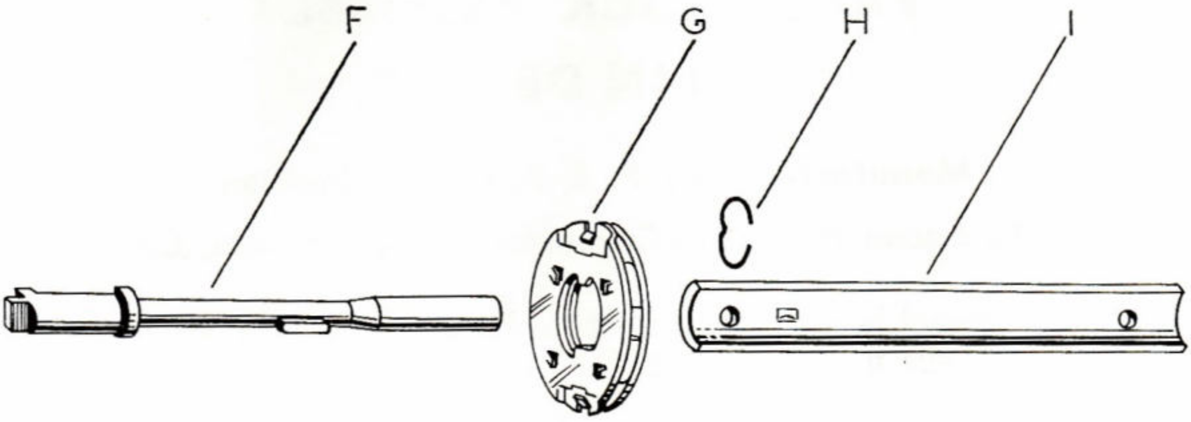
EXPLODED LOCK VIEW

No. 5280 Lockset

MANUFACTURED BY YALE & TOWNE MFG. CO.

White Plains, New York

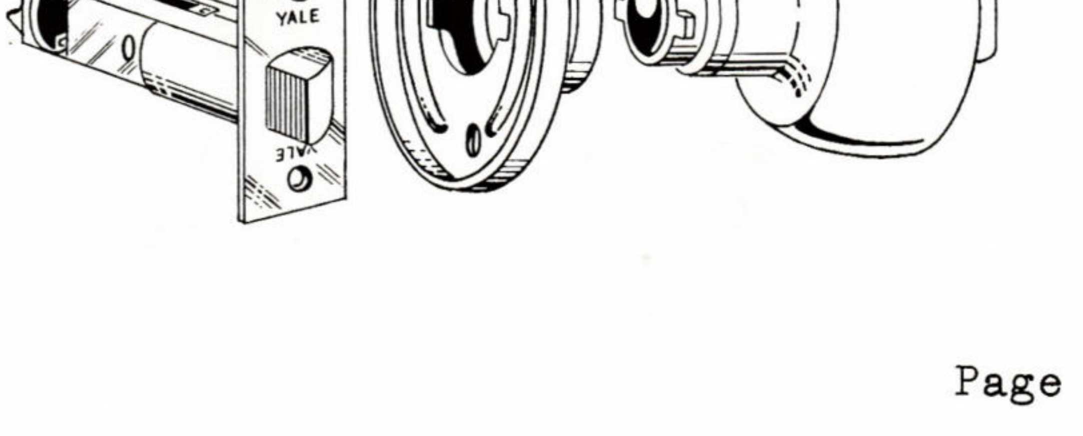
A—Outside Knob
B—Cylinder
C—Knob Bearing (Sleeve)
D—Rose
E—Knob Retaining Pin
F—Locking Stem
G—Locking Assembly
H—Retainer
I—Spindle
J—Latchbolt
K—Rose
L—Inside Knob



SERVICE NOTES

The hand of this lockset can be changed for either right or left hand doors by reversing the cylinder. To reverse the cylinder, rotate outside knob counterclockwise until the knob retainer lines up with the hole in the rose. Depress the retainer with a nail or pointed tool and slide off the knob. Insert the key halfway into the cylinder and turn the cylinder 180°. Re-install the knob and cylinder using the key to align the cylinder in the lock. Do not insert the key more than halfway when re-installing.

The knob retainer pin rests upon a steel ring insert in the knob bearing. This requires extra heavy pressure to depress the retainer pin.



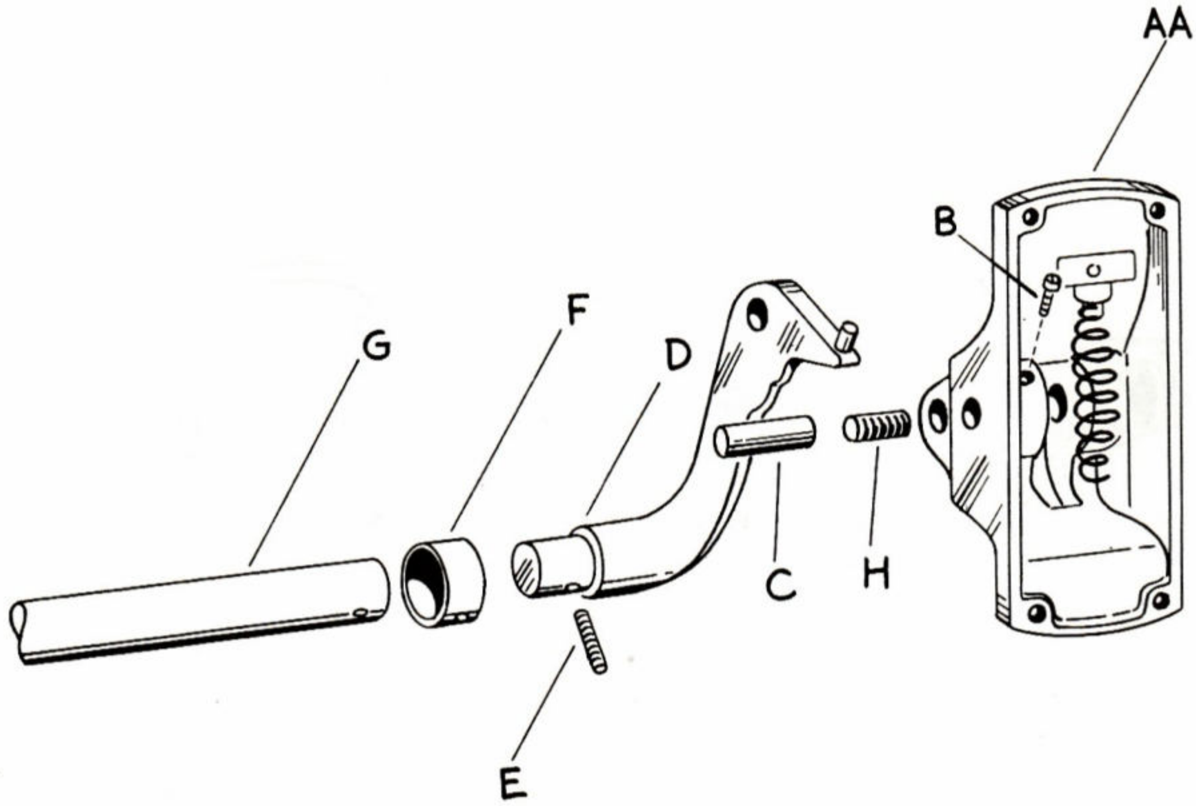
PANIC LOCK ASSEMBLY
CORBIN DB 120S

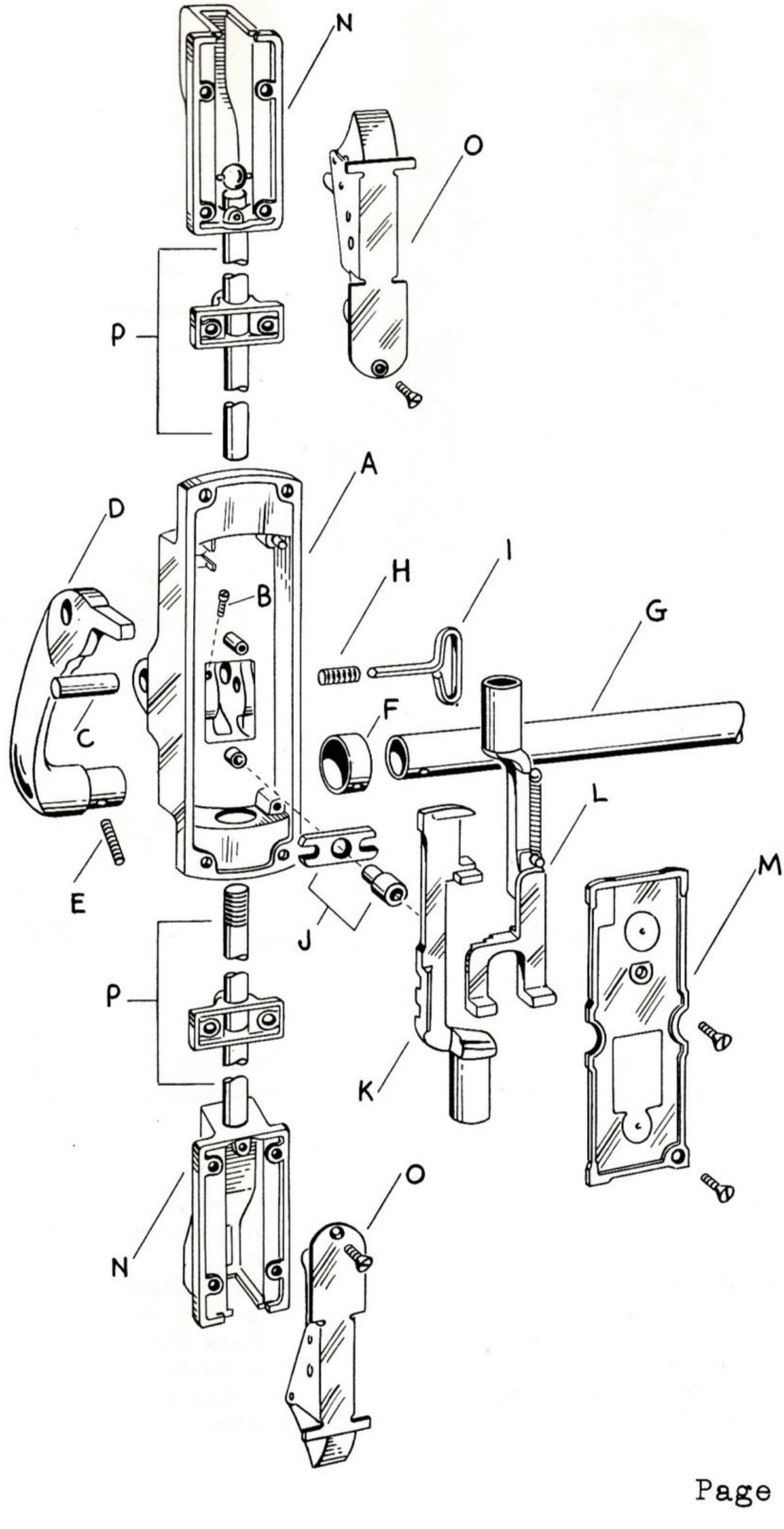
Manufactured by P. & F. Corbin Division

The American Hardware Corporation, New Britain, Conn.

Note! This model is a top and bottom locking version of the Corbin panic lock model DB 126S.

A—Active Case
AA—Support Case
B—Retaining Screw (for Pivot Pin "C")
C—Cross Bar Lever Arm Pivot Pin
D—Cross Bar Lever Arm
E—Cross Bar, Lever Arm Retaining Screw
F—Cross Bar, Lever Arm Sleeve (Joint Cover Ring)
G—Cross Bar
H—Dogging Screw
I—Dogging Key
J—"T" Pivot and Bearing
K—Pull Rod for Bottom Connecting Rod
L—Pull Rod for Top Connecting Rod
M—Case Back Plate
N—Top (and Bottom) Case
O—Top (and Bottom) Latch
P—Top (and Bottom) Connecting Rod and Guide.

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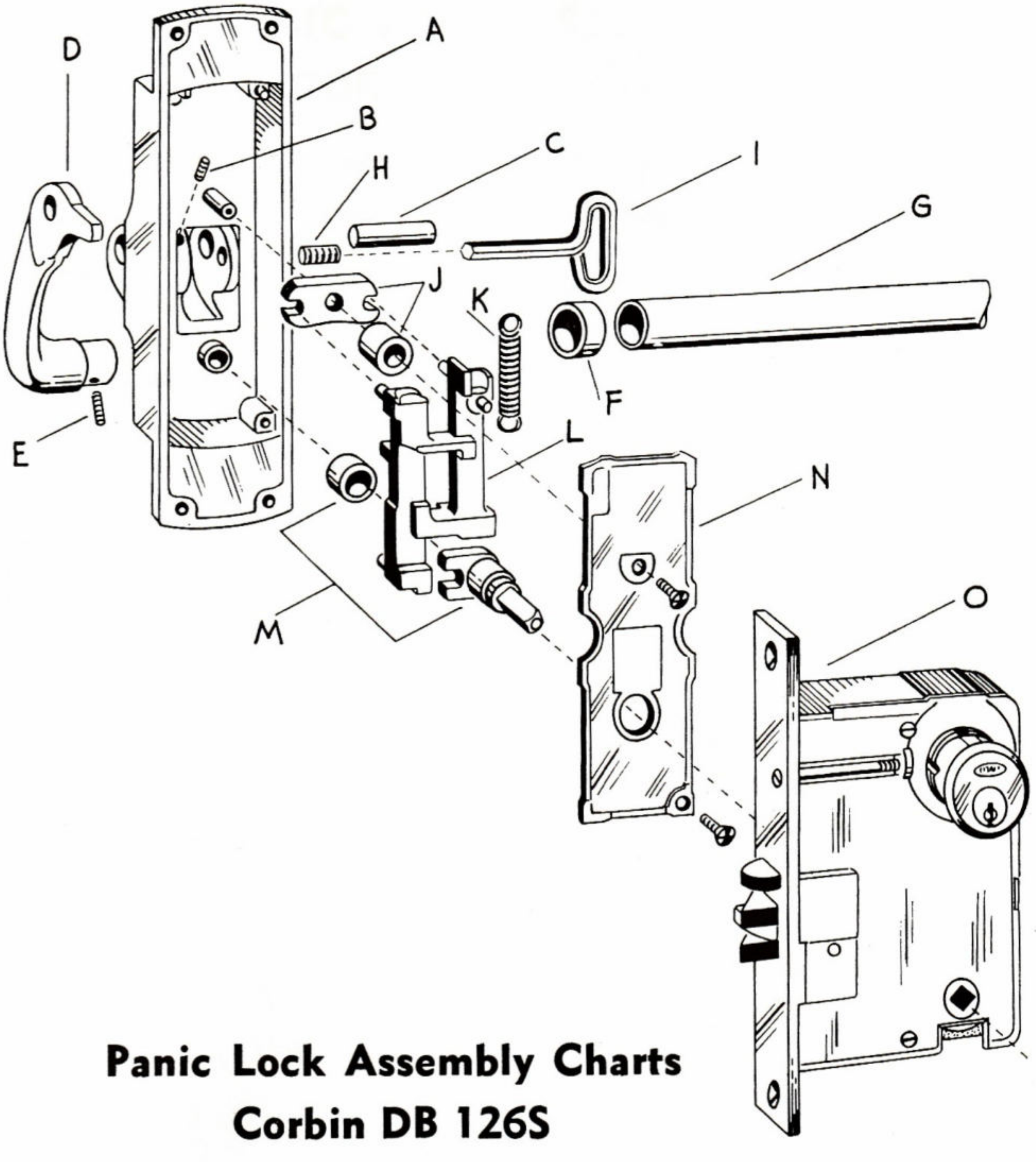
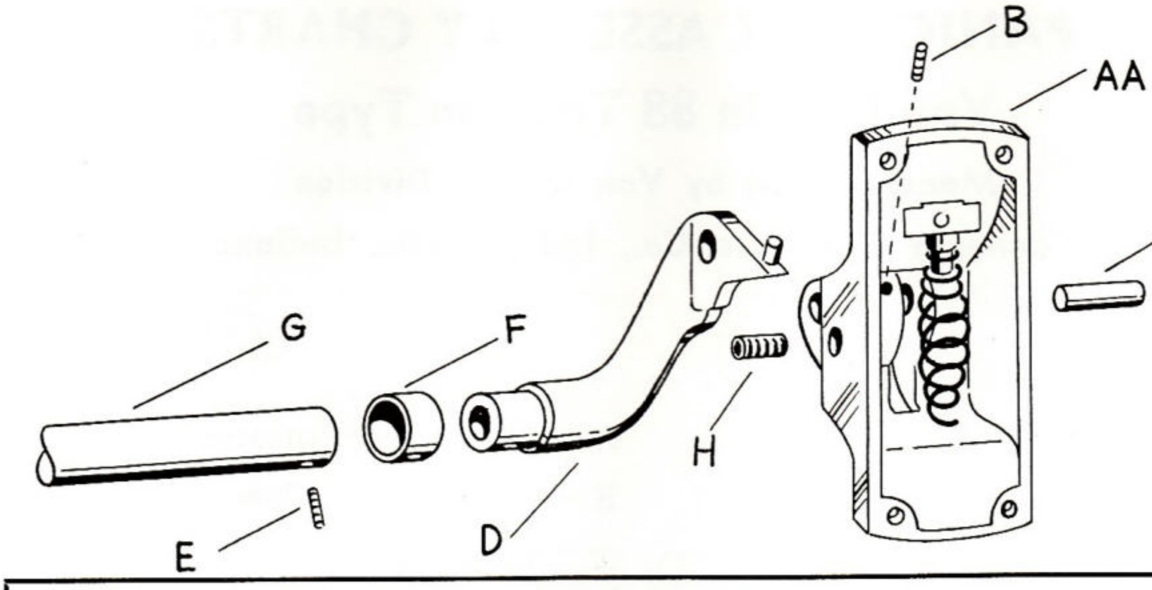


Panic Lock Assembly Charts
Corbin DB 126S

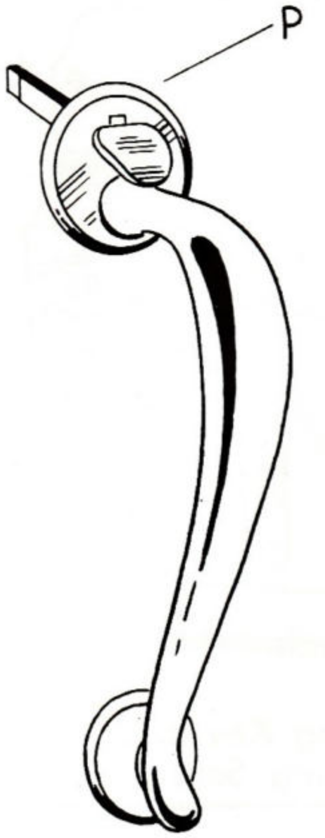
Manufactured by P. & F. Corbin Division
The American Hardware Corporation, New Britain, Conn.

A—Case
AA—Support Case
B—Retaining Screw (for Pivot Pin "C")
C—Cross Bar Lever Arm Pivot Pin
D—Cross Bar Lever Arm
E—Cross Bar, Lever Arm, Retaining Screw
F—Cross Bar, Lever Arm, Cover Ring
G—Cross Bar
H—Dogging Screw
I—Dogging Key
J—"T" Pivot and Bearing
K—Spring
L—Push - Pull Rods
M—Hub & Cam Assembly
N—Case Back Plate
O—Mortise Lock
P—Thumb Latch Handle Assembly



SERVICE NOTES

The outside cylinder locking action is shown in Figures 1 and 2. In the locked position (Figure 1), the thumb latch lever (shaded) is prevented from retracting the bolt by the lug on the tail end of the locking lever (arrow). When the cylinder cam (Figure 2), is rotated clockwise, the related parts move the locking lever on its pivot so that its lug does not block the travel of the thumb latch lever, which then can retract the bolt.



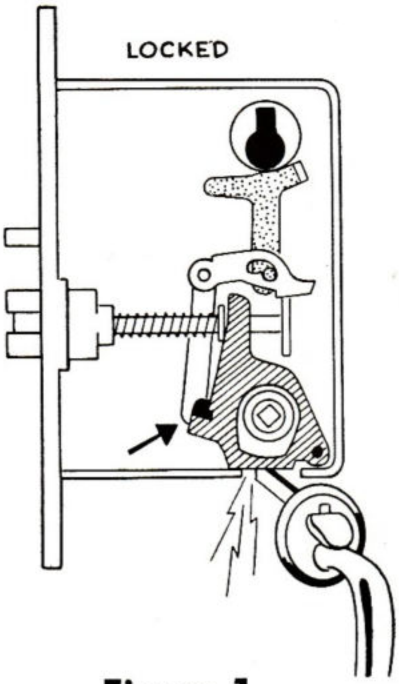


Figure 1

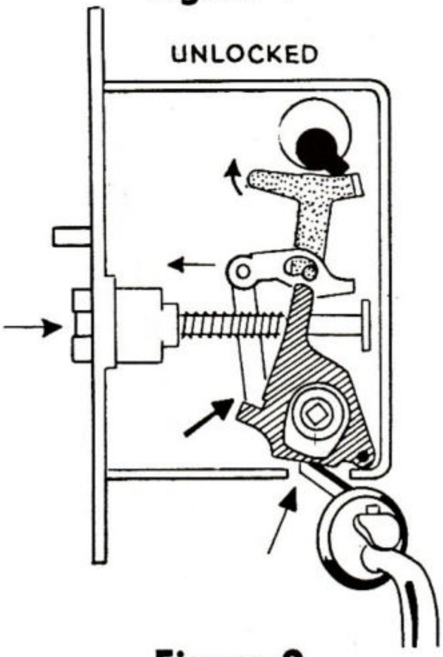


Figure 2

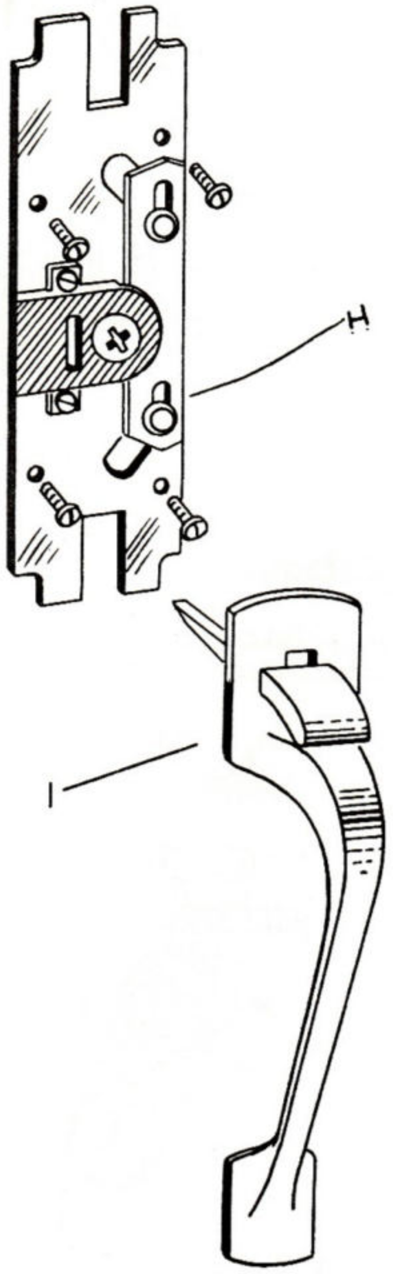
PANIC LOCK ASSEMBLY CHARTS

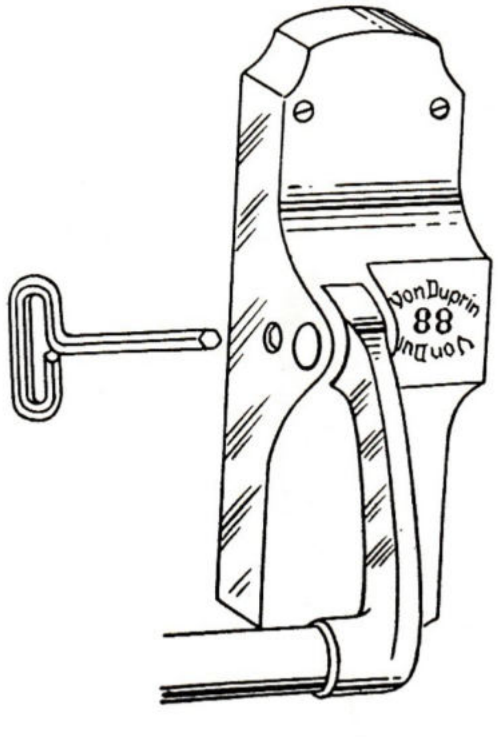
Von Duprin 88 TP, Rim Type

Manufactured by Von Duprin Division

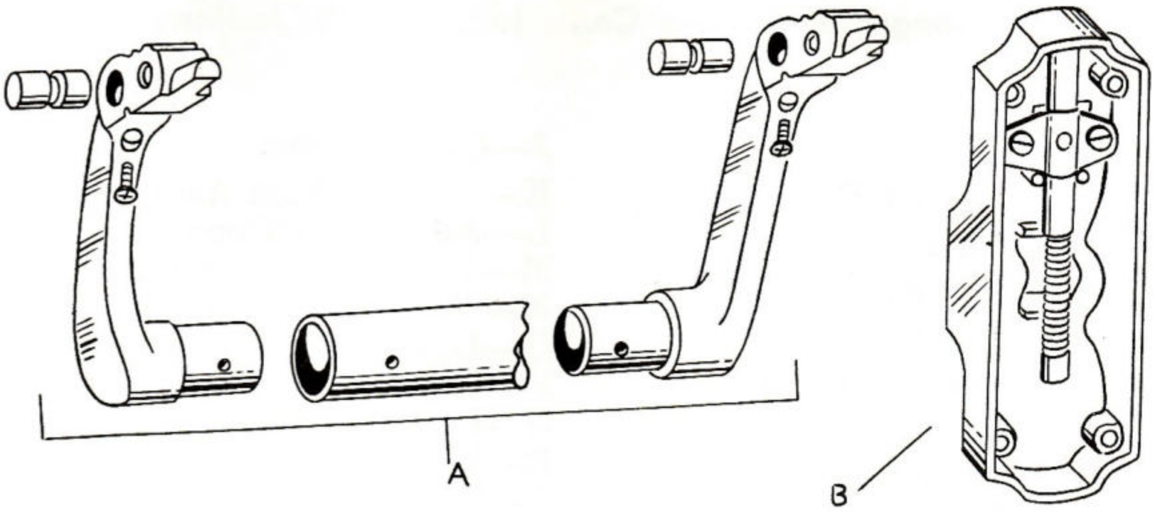
Vonnegut Hardware Co., Indianapolis, Indiana

A. Cross Bar Assembly
B. Hinge Stile Case
C. Lock Case
D. Retractor Lever Arm
E. Latch Bolt Retainer Plate
F. Latch Bolt Assembly
G. Retractor
H. Lock Case Cover
I. Thumb Latch Handle Assembly





Dogging Key and Dogging Screw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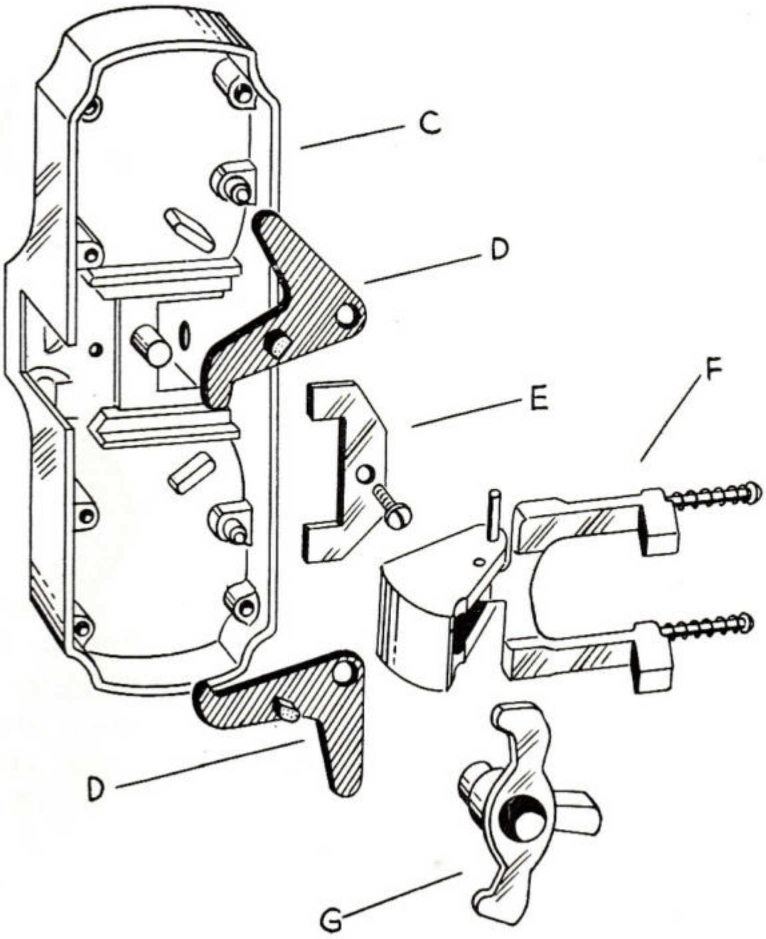
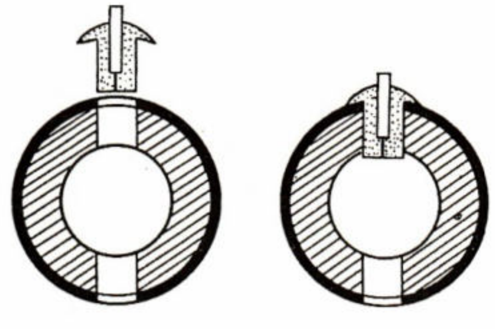
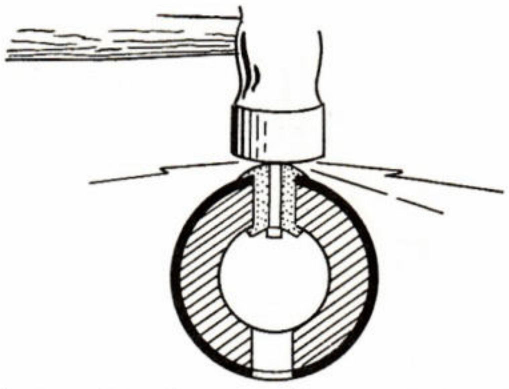

C
D
E
F
D
G

PANIC LOCK ASSEMBLY CHARTS
Von Duprin 8827, Rim Type

Manuf. by Von Duprin Division
Vonnegut Hardware Co., Indianapolis, Indiana

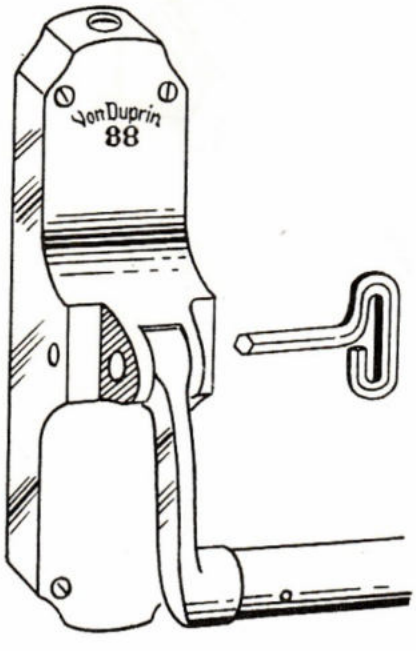
A—Lock Case
B—Vertical Rod Carriage
C—Back Plate
D—Cross Bar Arm
E—Cross Bar Pivot Pin
F—Set Screw for Pivot Pin
G—Cross Bar
H—Hinge Stile Case
I—Upper Vertical Rod Housing Cover
J—Cover Screw
K—Upper Latch Assembly
L—Adjustable Connector
M—Upper Exposed Vertical Rod
N—Vertical Rod Guide
O—Lower Vertical Rod
P—Rod Guide
Q—Lower Rod Connector
R—Lower Latch Cover
S—Cover Screw
T—Lower Latch Assembly

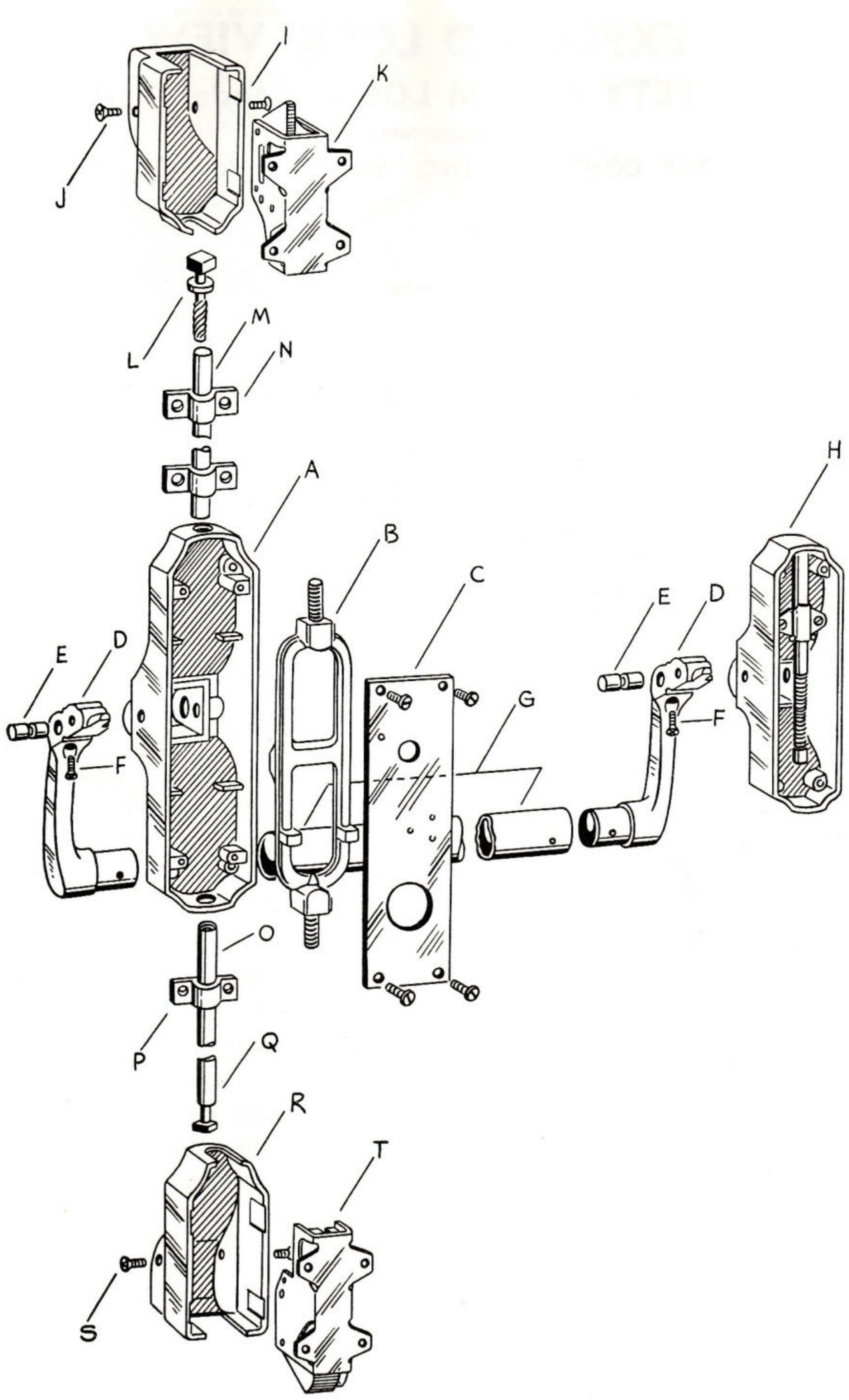




Cross Rod may be cut to desired length, drilled and rivetted as shown above. Merely drive in expansion type rivet provided with device. It is self tightening.

DOGGING KEY ACTION




I
K
J
L
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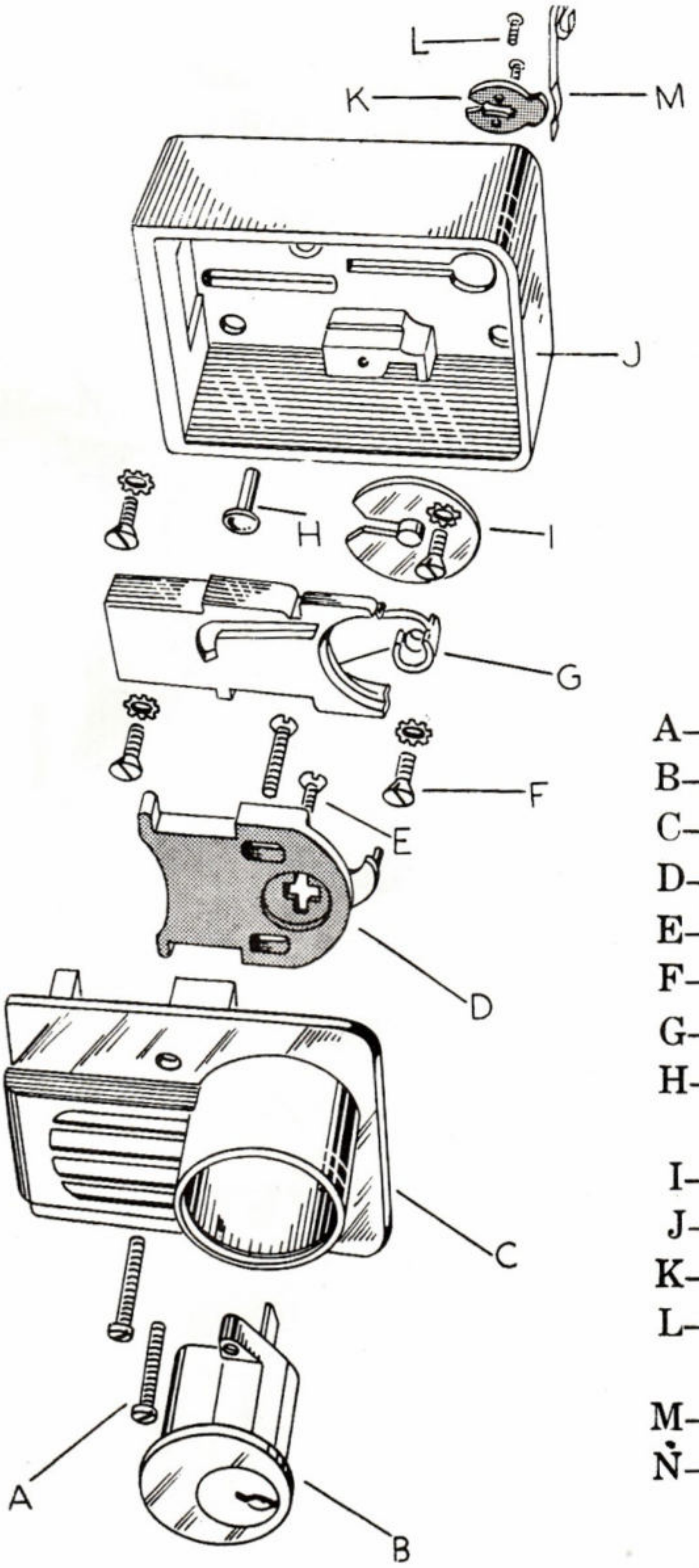
N
A
H
B
C
E
D
E
D
F
G
F
O
P
Q
R
T
S

EXPLODED LOCK VIEW

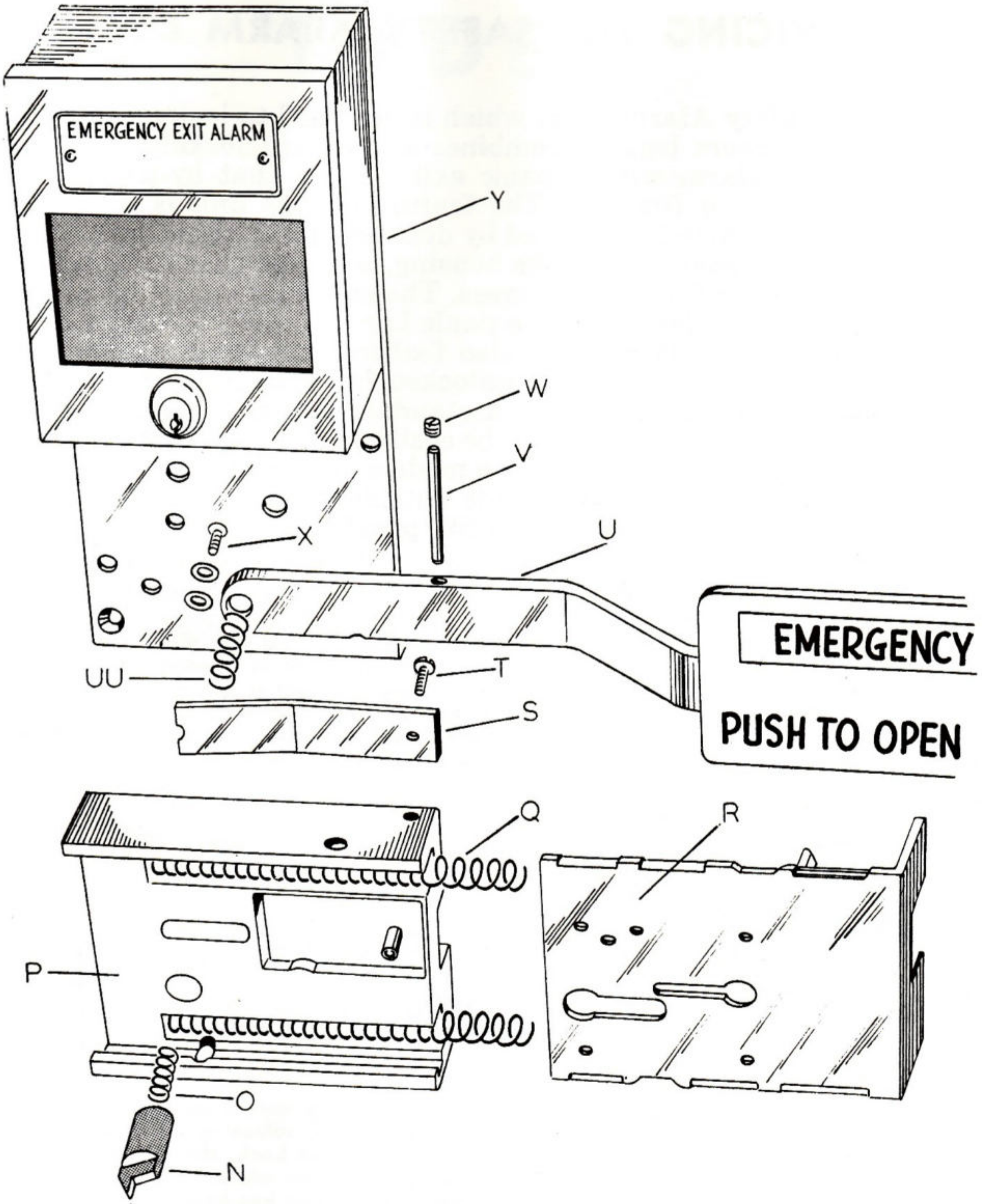
SAFETY ALARM LOCK Model 11A

manufactured by

DOOR CONTROLS, INC. New Hyde Park, L.I., N.Y.



A—Case Cover Screws
B—Rim Cylinder
C—Case Cover
D—Cylinder Cam Assembly
E—Cylinder Retainer Screws
F—Case Mounting Screws
G—Bolt
H—Pin (Controls slide action of case)
I—Case Cam
J—Case
K—Case Cam Retainer Plate
L—Case Cam Retainer Plate Screws
M—Spring
N—Travel Stop



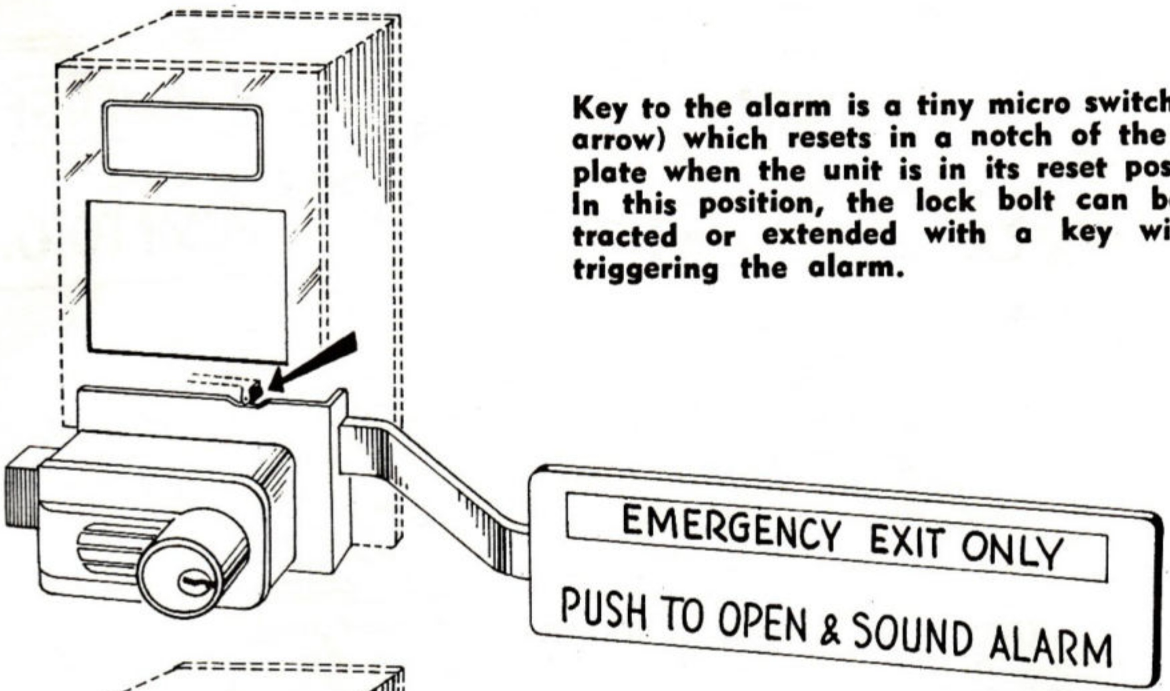
O—Spring
P—Lock Housing
Q—Slide Plate Springs
R—Slide Plate
S—Spring (governs slide action of case)
T—Screw for spring S

U—Panic Bar
UU—Panic Bar Spring
V—Panic Bar Pivot Pin
W—Panic Bar Pivot Pin Set Screws
X—Panic Bar Attaching Screw
Y—Alarm Box

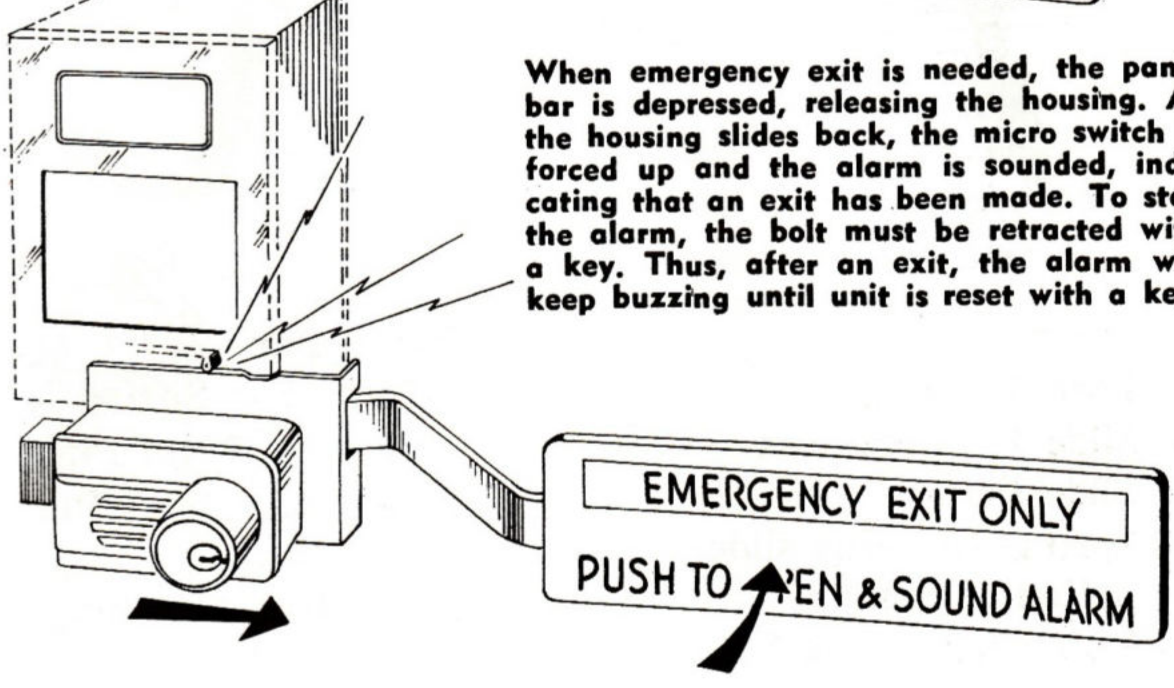
SERVICING THE SAFETY ALARM LOCK

The Safety Alarm Lock, which is designed to lock emergency exit or fire doors legally, combines a standard locking function and an exit alarm with a panic exit feature that by-passes the standard locking function. The feature of this unit is a sliding lock housing which is triggered by depressing the panic bar. Thus, the latch bolt, contained in the housing, is pulled out of the strike, freeing the door for instant egress. The exit alarm is set off as the lock housing is released by the panic bar.

The Safety Alarm Lock also features key-locking action so that the unit can be locked or unlocked from the inside or outside without setting off the alarm. A standard rim cylinder is used in the lock and, thus, the lock can be easily added to existing locking systems. It is available in various models depending upon installation features. Accessories include outside pulls, panic bar extension door holder and a remote control panel for large plants.



Key to the alarm is a tiny micro switch (see arrow) which resets in a notch of the slide plate when the unit is in its reset position. In this position, the lock bolt can be retracted or extended with a key without triggering the alarm.



When emergency exit is needed, the panic bar is depressed, releasing the housing. As the housing slides back, the micro switch is forced up and the alarm is sounded, indicating that an exit has been made. To stop the alarm, the bolt must be retracted with a key. Thus, after an exit, the alarm will keep buzzing until unit is reset with a key.

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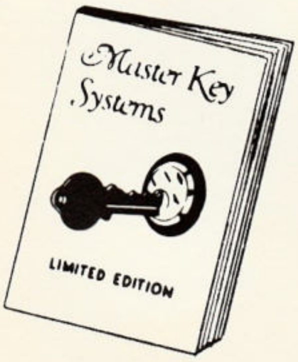

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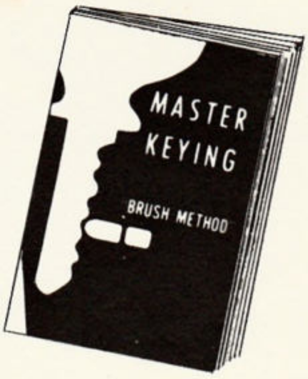

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